

**When a Purely Egotistical Individual Does Not Take the
Most: Reactive Egoism in Disposition and Situation over
Time**

Thesis

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CONTENTS

Acknowledgements	III
Summary	V
Chapter 1. When a Purely Egotistical Individual Does Not Take the Most: Reactive Egoism in Disposition and Situation over Time: Introduction.....	1
References	22
Chapter 2. When a Purely Egotistical Individual Does Not Take the Most: Reactive Egoism in Disposition and Situation	30
Study 1	41
Study 2	47
Overall Discussion.....	58
References	62
Chapter 3. When a Purely Egotistical Individual Does Not Take the Most: Reactive Egoism over Time	68
Study 1	78
Study 2	89
Overall Discussion.....	99
References	102
Chapter 4. When a Purely Egotistical Individual Does Not Take the Most: Reactive Egoism in Disposition and Situation over Time: General Discussion	108
References	126
Appendix: Curriculum Vitae	A

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SUMMARY

Perspective taking, the cognitive consideration of others' thoughts and intentions, is supposed to decrease egotistical tendencies in individuals and expected to cause empathetic behavior. However, in perceived competitive social interactions, taking others' perspectives may lead to a biased prediction of others' likely behavior. Consequently, individuals might reactively increase their own egotistical behavior, an effect called *reactive egoism* (Epley, Caruso, & Bazerman, 2006). To investigate the influence of perspective taking and social (value) orientation, as dispositional and situational characteristics, on individuals' reactively increased egotistical behavior in resource dilemmas over time was the major aim of the present dissertation.

Chapter 1 provides an overview of the present dissertation's theoretical background including *perspective taking* and *social orientation*, both dispositional and situational, and their influence on individuals' behavior in social interactions. Furthermore, these constructs' influence on the prediction of others' likely behavior is explained, dispositional influence according to the *triangle hypothesis* (Kelley & Stahelski, 1970) and situational influence according to *social uncertainty* (Wit & Wilke, 1998).

Chapter 2, "When a Purely Egotistical Individual Does Not Take the Most: Reactive Egoism in Disposition and Situation," investigates the influence of perspective taking and social orientation on individuals' behavior in resource dilemmas as dispositional characteristics in Study 1 (undergraduate students; $N = 183$), and as situational characteristics through their manipulation in Study 2 (general staff members of the Swiss Armed Forces; $N = 133$).

Chapter 3, “When a Purely Egotistical Individual Does Not Take the Most: Reactive Egoism over Time,” extends the research of the previous chapter by investigating reactive egoism in resource dilemmas with long-term orientation. Situational characteristics of perspective taking and social orientation are simulated finitely repeated over time, and the influence of individuals’ different levels of experience with negotiation processes and expertise in Study 1 (undergraduate students; $N = 112$) and Study 2 (business leaders; $N = 60$) is considered.

Chapter 4 presents the dissertation’s core findings, critically discusses the theoretical background as well as the methodology, explicates the present dissertation’s contributions to the basic knowledge of psychology, and demonstrates possible extensions for future research.

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CHAPTER 1

WHEN A PURELY EGOTISTICAL INDIVIDUAL DOES NOT TAKE THE MOST: REACTIVE EGOISM IN DISPOSITION AND SITUATION OVER TIME

Introduction

Egotism¹ through empathy? *Reactive egoism*, the major research topic of this dissertation, refers to the increased egotistical behavior of individuals when they empathetically consider and predict other people's thoughts or intentions. It seems to be a paradoxical concept: How can empathy lead to negative outcomes? Reactive egoism is described as contradictory consequences of perspective taking, the tendency to decrease egocentrism by considering others but at the same time to perceive those others as self-

¹ In the following, I consistently use the term egotism (and its modified terms), except in the keyword *reactive egoism*, which is the current spelling in research. Furthermore, I consistently use the term emotional concern instead of empathic concern in order to avoid confusion with recent theories' understanding of empathy.

interested. In reaction to the others' presumably self-interested behavior, the individual's own egotistical behavior increases (Epley, Caruso, & Bazerman, 2006). This dissertation investigates the antecedents of reactive egoism in disposition and situation and examines its consequences over time.

Since reactive egoism is caused by perspective taking, this chapter first discusses *perspective taking* and its integration in the broader term of empathy. I then present individuals' own preferences of outcome distribution in social interactions, called *social (value) orientation*. Afterwards, the *triangle hypothesis* explains how others are predicted by perspective taking and social orientation and how this prediction affects individuals' subsequent behavior. To complete Chapter 1, a section on the methodology implemented in this dissertation and an overview of the empirical studies presented in the two chapters in this dissertation (Chapter 2 and Chapter 3) is described. In Chapter 4, I discuss the chapters' core findings and limitations and offer comments concerning the chapters' contributions to basic knowledge in psychology as well as to possible future research.

From Perspective Taking to Empathy

Empathy, a construct long studied in philosophy, theology, and psychology – especially social psychology – has for centuries evaded a final definition in different research perspectives (Davis, 1996). This resulted from empathy's history being full of “disagreement and discrepancy” (Preston & De Waal, 2002, p. 1). When *empathy* was introduced in psychology, the term initially came from *Einfühlung*, the German artists' and philosophers' name for an observer's projecting into an object (Davis, 1996). In the beginnings of psychological empathy research, the term was meant to describe an individual's purely affective response to objects. However, several researchers argued later that in addition to emotional components, cognitive processes influence empathy as well. For example, a child's

development of a “theory of mind” (i.e., the development of the ability to recognize that other people have a separate mind) reflects such cognitive processes in empathy. Following the theory of mind, Davis (1996) assumed in empathy two major cognitive processes to exist: the individual’s suppression of “his or her usual egocentric outlook” (p. 6) as well as the imagination of “how the world appears to others” (p. 6).

After complementing the affective component with a cognitive component, subsequent research further differentiated between specific forms of empathy. At almost the same time, various researchers postulated a three-dimensional taxonomy. Underwood and Moore’s (1982) typology named three antecedents of empathetic behavior: *affective perspective taking*, *social-cognitive perspective taking*, and *perceptual perspective taking*. Eisenberg (1986) confirmed this notion of three separate components of empathy by labeling them *affective role taking*, *cognitive role taking*, and *perceptual role taking*. In addition, in a multidimensional approach to empathy, Davis (1980) included the same dimensions in his empathy measure, the Interpersonal Reactivity Index² (IRI): an affective component (subscale *emotional concern*; and to some extent the subscale *personal distress*), a (social-) cognitive component (subscale *perspective-taking*), and a perceptual component (subscale *fantasy*).

The major focus of this dissertation is on perspective taking. Therefore, the separation of the cognitive component from the affective component is explored first. This separation of affect and cognition in empathy was established in the final version of the IRI (Davis, 1980,

² Besides the affective and cognitive dimensions, explained further in the following sections, the other two dimensions in the Interpersonal Reactivity Index (Davis, 1980) measure an affective and health-associated component, especially in negative contexts, that reflects an observer’s anxiety and discomfort when perceiving others experiencing harm or suffering (*personal distress* subscale), and a perceptual component that reflects a person’s ability to identify with fictitious characters in media (*fantasy* subscale). Their connection with empathy will be discussed in the General Discussion in Chapter 4.

1983; see Tables 1.1 and 1.2). Cognitive components are measured in Davis's (1980) *perspective-taking* subscale, whereas affective components are measured in the *emotional concern* subscale. The *perspective-taking* subscale (Table 1.1) reflects a person's ability to adopt the perspective of others (i.e., considering others in order to understand their thoughts or intentions). In contrast, the *emotional concern* subscale (Table 1.2) reflects a person's ability to experience emotion for others, such as warmth, compassion, or concern (i.e., considering others in order to understand their feelings). Although some items in the *emotional concern* subscale (e.g., Items 1, 2, and 7) might measure perspective taking, the *perspective-taking* subscale measures exclusively cognitive perspective taking (i.e., thoughts and intentions), and the *emotional concern* subscale measures what previously was thought of as affective perspective taking (i.e., feelings; for an overview, see Oswald, 1996).

Table 1.1

Perspective-Taking Items in the Interpersonal Reactivity Index (Davis, 1980)

Items
1. I sometimes find it difficult to see things from the "other guy's" point of view. (R)
2. I try to look at everybody's side of a disagreement before I make a decision.
3. I sometimes try to understand my friends better by imagining how things look from their perspective.
4. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (R)
5. I believe that there are two sides to every question and try to look at them both.
6. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.
7. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

Note. (R) indicates reverse coded items.

Apparently, the affective and cognitive components are connected with empathy. Due to the close relationship between (both affective and cognitive) perspective taking and empathy, they are often both regarded as being the same. This is mainly due to a common

understanding of taking another's point of view, affectively or cognitively, as being empathetic behavior. Scientific research has often used these terms interchangeably as well (see Galinsky, Maddux, Gilin, & White, 2008). In order to separate perspective taking and empathy, Galinsky et al. (2008) characterized empathy as an "other-focused emotional response that allows one person to affectively connect with another" (p. 378) and understood it as a response to a previously experienced emotion. In contrast, along the lines of Davis's (1980) definition, perspective taking is defined as the ability of a "respondent to adopt the perspective, or point of view [of others]" (p. 6). Thus, empathy might be understood as the reaction to one's previously performed perspective taking. This notion is supported by Eisenberg (1991) saying that empathy is frequently viewed as "stemming from perspective-taking activities" (p. 274). Furthermore, Davis demonstrated that affective and cognitive perspective taking are independent of each other but also that both contribute individually to empathy at the same time and are necessary antecedents to emotional experience, which in Oswald's (1996) terminology is understood as empathy.

Table 1.2

Emotional Concern Items in the Interpersonal Reactivity Index (Davis, 1980)

Items
1. When I see someone being taken advantage of, I feel kind of protective toward them.
2. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (<i>R</i>)
3. I often have tender, concerned feelings for people less fortunate than me.
4. I would describe myself as a pretty soft-hearted person.
5. Sometimes I don't feel sorry for other people when they are having problems. (<i>R</i>)
6. Other people's misfortunes do not usually disturb me a great deal. (<i>R</i>)
7. I am often quite touched by things that I see happen.

Note. (*R*) indicates reverse coded items.

From the point of view of empathy research, both affective and cognitive perspective taking are seen as a mediator for development of empathy and altruism (Batson et al., 1995; Underwood & Moore, 1982). Batson et al. (1995) defined empathy as “other-oriented feelings congruent with the perceived welfare of another individual” (p. 621). In line with empathy research and the “empathy-altruism hypothesis” (Batson, Duncan, Ackerman, Buckley, & Birch, 1981; see also Batson, 1991; Batson et al., 1991), empathy leads people to behave more altruistically (Batson et al. 1995; Batson & Moran, 1999); altruism is understood as “actions intended to benefit” (Batson & Powell, 2003, p. 463) others more than oneself. As Batson postulated in the empathy-altruism hypothesis, empathy causes the individual’s altruistic motivation, which is “directed toward the ultimate goal of increasing the welfare of the person in need” (Batson et al., 1991, p. 413) and is supposed to lead to helping or prosocial behavior (for an overview, see Batson & Powell, 2003).

However, reconsidering Batson’s definition of empathy, it remains rather unclear as to whether other-oriented feelings really reflect empathy, or whether they rather correspond to affective perspective taking. Later, Batson and Moran (1999) modified the definition by describing empathy as an “other-oriented emotional response congruent with the perceived welfare of the other” (p. 911). This more recent definition matches Galinsky et al.’s (2008) definition of empathy much more closely, while also specifying empathy as a response and not just as emotional concern for another person. In other words, Batson’s initial definition considered empathy to be what was previously labeled affective perspective taking (see Batson, 1991; Batson et al. 1981, 1991, 1995; Batson & Ahmad, 2001; Batson & Moran, 1999).

As a conclusion, research provides support that affective perspective taking leads to empathy and prosocial behavioral outcomes, such as cooperation and helping. Thus, the

question arises as to whether cognitive perspective taking also leads to empathy and prosocial behavioral outcomes.

Perspective Taking in Social Interactions

Consider the following two examples: on a winter day you see someone slip on the ice; in a poker game a fellow player raises (increases the bet). Although the content of these two situations differs completely, in both situations it is possible to take the person's perspective – with different consequences of perspective taking.

A first difference between the two situations is the presumable affective influence of perspective taking. In example of a person slipping on the ice, you could potentially consider the person's need cognitively. However, you are much more likely to be emotionally concerned for the person – the person might have been injured. Therefore, choosing to assist the person will presumably be caused by your affective arousal and becoming emotionally concerned. In contrast, in the poker game example, you are much more likely to assess the player's intentions cognitively. In other words, the winter day example requires more affective perspective taking, whereas the poker game example requires more cognitive perspective taking.

As explained in the empathy-altruism hypothesis, affective perspective taking causes empathy and prosocial behavioral outcomes. For cognitive perspective taking, research also provides evidence that such prosocial behavioral outcomes result. For example, considering others' thoughts decreases the stereotyping of others (Galinsky, Ku, & Wang, 2005), decreases the expression of stereotypes and accessibility to stereotypes, and prevents favoring of the ingroup (Galinsky & Moskowitz, 2000). Furthermore, cognitive perspective taking prevents the maintenance of stereotypes by processing stereotype-inconsistent information (Todd, Galinsky, & Bodenhausen, 2012). In negotiations, cognitive perspective taking

decreases egocentric, or self-centered, judgments by considering others (Epley et al., 2006), increases the accuracy of the cognitive understanding of others (Gilin, Maddux, Carpenter, & Galinsky, 2013), and leads to “individuation” – the consideration of others as different individuals rather than simply as the collective (Savitsky, Van Boven, Epley, & Wight, 2005). Moreover, cognitive perspective taking in negotiations aids discovery of hidden agreements (Galinsky et al., 2008), minimizes the influence of a person’s first offer (Galinsky & Mussweiler, 2001), avoids impasses (Trötschel, Hüffmeier, Loschelder, Schwartz, & Gollwitzer, 2011), and generally increases negotiation effectiveness (Neale & Bazerman, 1983).

A second difference between the winter day example and the poker game example is the predicted intention of the other person’s behavior. You might reasonably assume that the person who fell down was in this unfortunate position accidentally and would welcome your assistance. In the poker game example, you would either assume that the other person has a better hand than you do or that the other person is bluffing. The consequences of taking the other person’s perspective are more precise and accurately appraisable affectively in the winter day example than cognitively in the poker game example.

While research demonstrated that affective perspective taking leads to consistently prosocial behavioral outcomes, cognitive perspective taking was shown to have contradictory behavioral outcomes. Besides the empathetic and prosocial behavioral outcomes, described above, there is evidence that cognitive perspective taking leads to less cooperative, less social, and even more egotistical behaviors (e.g., Epley et al., 2006). Davis (1983) argued that cognitive perspective taking allows actors to anticipate and predict others’ likely behavior, which in turn might be used in one’s own favor by gathering valuable information about others (Bazerman & Neale, 1983). Furthermore, Neale and Bazerman (1983) noted that the greater “the ability to adopt the opponent’s viewpoint” (p. 380) in negotiations, i.e., the higher

one's cognitive perspective taking ability, the greater the opportunity should be to reach successful outcomes for oneself. Studies on empathy and perspective taking by Galinsky et al. (2008) showed that in negotiations, empathy (i.e., "the ability to connect emotionally with another individual;" p. 378) is indeed socially acceptable or even desired but not beneficial for oneself, whereas perspective taking (i.e., "the cognitive capacity to consider the world from another individual's viewpoint;" p. 378) seems to be a highly profitable ability (see also Gilin et al., 2013; Pierce, Kilduff, Galinsky, & Sivanathan, 2013).

In conclusion, research seems to confirm the notion that affective perspective taking leads to empathy and prosocial behavioral outcomes. In contrast, the findings are more contradictory regarding whether cognitive perspective taking leads to prosocial or proself behavioral outcomes. In the following sections, possible reasons for the contradictory behavioral outcomes will be presented.

Reactive Egoism

A cognitive change of the perspective from the self to another individual is supposed to be empathetic behavior. As described above, perspective taking in the poker game example leads to a decrease of egocentric judgments by considering others (Epley et al., 2006). However, Epley et al. (2006) also demonstrated that other-focused individuals reactively increase their egotistical behavior – depending on the situation. The winter day example and the poker game example demonstrate that consequences of perspective taking not only depend on personality characteristics (e.g., measured by the IRI; Davis, 1980) but also are influenced or even forced by the situation.

On a winter day, affectively taking everyone's perspective in order to provide assistance would tend more to generate costs than garner any benefits for the helper at all. Therefore, taking others' perspective is not necessarily beneficial for oneself. In a poker

game, however, the benefits of cognitive perspective taking (e.g., to identify bluffs) might exceed the costs. Due to the competitive nature of the poker game, other players are likely assumed to be competitive. As a consequence of others' predicted competitiveness one's own behavior might reactively become even more egotistical (Epley et al., 2006; see also Pierce et al., 2013). This resulting effect of increased egotistical behavior in (assumed) competitive social interactions, due to the others' predicted self-interested behavior, is called reactive egoism (Epley et al., 2006).

Social Orientation

In social interactions, individuals have their own preferences whether they like to compete or to cooperate (De Dreu & Van Lange, 1995; Van Lange & De Dreu, 2001). This preference for the allocation of outcomes between oneself and another individual is known as *social (value) orientation* (McClintock, 1978; Van Lange, 1999; see also Kelley & Thibaut, 1978; Messick & McClintock, 1968). In the research on social orientation, four types of social preferences have been defined and characterized in two separate higher-level categories, *prosocial* and *proself*.

Since prosocial individuals' focus and interest is on the joint outcome of oneself and other individuals, both the *cooperative* orientation and the *altruistic* orientation comprise the prosocial orientation. In a *cooperative* orientation, the goal is to maximize outcomes of all individuals (joint outcome); in an *altruistic* orientation, the goal is to maximize outcomes of other individuals. In contrast, proself individuals' focus and interest is on their own outcome and is therefore self-oriented. Both the *competitive* orientation and the *individualistic* orientation comprise the proself orientation. In a *competitive* orientation, the goal is to maximize outcome differences between oneself and others; in an *individualistic* orientation, the goal is to maximize one's own outcomes (Van Lange, 1999, 2000; Van Lange, Liebrand,

& Kuhlman, 1990; see also Balliet, Parks, & Joireman, 2009; Bogaert, Boone, & Declerck, 2008). Since prosocial individuals include others in their social preference for outcome distribution, these individuals are predicted to take others' perspective due to their higher perspective-taking abilities. In contrast, since proself individuals exclude others from their socially preferred outcome allocation and at the same time focus solely on their own individual interests, these individuals are expected to take others' perspective to a smaller degree.

The most common measure of dispositional social orientation, the Triple-Dominance Measure of Social Values (TDMSV; Van Lange, Otten, De Bruin, & Joireman, 1997), adopts the structure of forced-choice items in matrices by providing individuals with nine items in which points must be allocated on one's own behalf and another person's (see Table 1.3). An individual can be classified as being either *prosocial*, *individualistic*, or *competitive*. The extent of an individual's behavior being cooperative or competitive therefore depends on the individual's disposition (i.e., *personality*). However, as illustrated in the poker game example, cooperation and competition might also depend on the individual's interpretation of the situational characteristics of negotiations (i.e., *situation*).

In social interactions, the situation itself can be induced to be either cooperative or competitive, according to the structure of the task (Weber, Kopelman, & Messick, 2004). Usually, the task structure is manipulated by instruction or incentive structure, as reviewed by De Dreu, Weingart, and Kwon (2000). The above presented winter day example is likely to be indifferent concerning cooperation and competition because of the situation's absence of an incentive structure. In contrast, the poker game example describes a competitive situation in which the situation's competitiveness is salient by the presence of the incentive structure; i.e., the winner will be rewarded by maximizing his or her poker chips in relation to the other players.

Table 1.3

Matrices (Items) in the Triple-Dominance Measure of Social Values (Van Lange et al., 1997)

		A	B	C
1)	You get	480	540	480
	Other gets	80	280	480
2)	You get	560	500	500
	Other gets	300	500	100
3)	You get	520	520	580
	Other gets	520	120	320
4)	You get	500	560	490
	Other gets	100	200	490
5)	You get	560	500	490
	Other gets	300	500	90
6)	You get	500	500	570
	Other gets	500	100	300
7)	You get	510	560	510
	Other gets	510	300	110
8)	You get	550	500	500
	Other gets	300	100	500
9)	You get	480	490	520
	Other gets	100	490	300

Note. A, B, & C are forced-choice items. Values represent points that need to be allocated. Classification of an individual is made for six or more consistent choices. Prosocial choices are 1c, 2b, 3a, 4c, 5b, 6a, 7a, 8c, 9b; individualistic choices are 1b, 2a, 3c, 4b, 5a, 6c, 7b, 8a, 9c; and competitive choices are 1a, 2c, 3b, 4a, 5c, 6b, 7c, 8b, 9a.

So far, the possible influence of perspective taking as well as social orientation, in disposition and situation, on individuals' behavior in social interactions has been explained. In the following sections, I describe these constructs' influence on the prediction of others.

“Triangle” Hypothesis

The “triangle” hypothesis (Kelley & Stahelski, 1970b) considers the mechanisms of how individuals predict others’ intentions and behavior depending on their dispositional perspective taking and their dispositional social orientation. According to Kelley and Stahelski (1970a), “it is important ... to know what the other [ones’] intentions are” (p. 379) – particularly in social interactions with interdependence and divergent interests among individuals (Kelley & Stahelski, 1970c).

In their triangle hypothesis, Kelley and Stahelski (1970b) argue that individuals may be categorized along two different types of personality: a cooperative personality (i.e., trying to maximize joint outcomes for oneself and others), and a competitive personality (i.e., trying to maximize own outcomes). Furthermore, these two different personality types are predicted to have different views of and beliefs about others, especially of others’ cooperative or competitive intention, resulting from their previous experience in social interactions (Kelley & Stahelski, 1970b). Negotiations with two competitive individuals result in full competition, irrespective of the prediction of the others’ intention. In contrast, (mutual) cooperation is only possible in negotiations with two cooperative individuals.

Van Lange (1992) concluded that competitive individuals “assume that others are primarily competitive” (p. 372), whereas cooperative individuals “assume that others are either cooperative or competitive” (p. 372). Competitors are defined as self-focused and are therefore predicted to show less perspective taking. Even if they take others’ perspective to some extent, competitors experience affirmation because they “observe mostly non-cooperative behavior from their interactions partners” (Aksoy & Weesie, 2012, p. 45). In contrast, cooperators consider other individuals by taking others’ perspective and are supposed to be more sensitive in predicting others’ cooperation or competitiveness (Weingart, Brett, Olekalns, & Smith, 2007).

These conclusions by Van Lange (1992) are in line with the research on the “false consensus bias” (Ross, Greene, & House, 1977). The false consensus bias explains the false prediction that other individuals have the same social orientation and show the same behavior as oneself, regardless of others’ actual social orientation (Aksoy & Weesie, 2012). Studies by Iedema and Poppe (1994, 1995, 1999) also showed that beliefs about others’ cooperation or competitiveness depend primarily on one’s cooperative or competitive personality.

Social Uncertainty

As described in the false consensus bias, cooperators are more likely to expect other individuals to cooperate. However, Van Lange (1992) demonstrated that cooperators are less confident about others’ social orientation than competitors are: Cooperators might alternatively predict others to be competitive. Consequently, uncertainty exists for cooperators as to whether the other individuals will cooperate or not. According to Wit and Wilke (1998), this particular insecurity concerning whether the other negotiators will cooperate is called *social uncertainty*.

From competitors’ perspective, social uncertainty does not exist. As stated in the triangle hypothesis, a competitor predicts other negotiators to be competitive only, since a competitor’s goal is not affected by others’ behavior. In this case, whether the other negotiators are competitive or cooperative becomes irrelevant for the competitor. Even if the other negotiators were cooperative, mutual cooperation is no longer possible, and, as a consequence, cooperators’ strategy becomes competitive, too.

From cooperators’ perspective, social uncertainty is a possible threat. Due to interdependence with others, mutual cooperation not only depends on the cooperator’s behavior but also on others’ cooperative behavior. According to Kelley and Stahelski (1970a), a cooperative individual might change strategy if the intention needed to be “modified by the

noncooperative [other]” (p. 395) or the intention is “untenable when confronted with the noncooperative [other]” (p. 395). As a consequence, it is the cooperative individual who needs to adapt his behavior to others and to “become like them behaviorally” (Kelley & Stahelski, 1970c, p. 417) rather than “simply to act cooperatively” (Kelley & Stahelski, 1970a, p. 380).

Moreover, in negotiations where it is difficult to accurately predict others, the prediction is confounded, or even triggered, by the situation (Iedema & Poppe, 1995; see also Kuhlman, Brown, & Teta, 1992; Kuhlman & Wimberley, 1976). In case of an uncertain situation (e.g., Messick, Allison, & Samuelson, 1988), when social exchange causes interdependence between individuals (Kelley & Thibaut, 1978) and when social uncertainty (Wit & Wilke, 1998) exists, it is likely that individuals predict that others are competitive even if they were cooperative and mutual cooperation would have been possible. Consequently, negotiations on resource allocation might turn competitive not only due to others’ predicted competitive *personality* but also due to assumed competitive characteristics of the *situation*.

As a result, cooperators might show reactive egoism (i.e., the increased egotistical behavior due to the presumably self-interested behavior of others) in negotiations with high social uncertainty; irrespective of whether uncertainty is caused by others’ predicted competitiveness or by the situation’s predicted competitiveness.

Conclusions

Previous research has shown that (a) individuals with the ability to cognitively take others’ perspective, (b) prosocial individuals, and (c) individuals in cooperative situations are more likely to cooperate than (a) individuals without the ability to take others’ perspective, (b) proself individuals, and (c) individuals in competitive situations (Batson et al., 1995; De

Cremer & Van Lange, 2001; Galinsky et al., 2008; Neale & Bazerman, 1983). This assumption is maintainable as long as there is neither interdependence nor perceived competitiveness in social interactions that may induce social uncertainty. In contrast, in situations with social uncertainty, (a) individuals with the ability to cognitively take others' perspective, (b) prosocial individuals, and (c) individuals in cooperative situations are supposed to predict others' intentions to be self-interested. As a consequence, individuals' cooperation is unlikely due to the others' predicted non-cooperation, and, as a consequence, reactive egoism (i.e., reactively increased egotistical behavior) is predicted to occur.

Methodology of Perspective Taking and Social Orientation

In this dissertation, influences of perspective taking and social orientation on individuals' behavior are investigated. Different methodological procedures exist to accomplish this. As described above, for both perspective taking and social orientation measures to assess disposition are available (i.e., *personality*). At the same time, there is also the possibility to manipulate perspective taking and social orientation (i.e., *situation*). These different methods will be discussed in this section.

Perspective Taking

To assess dispositional empathy and perspective taking, different measures exist. Early measures of empathy by Dymond (1949, 1950) or Hogan (1969) lack theoretical appropriateness or are confounded, such as the Questionnaire Measure of Emotional Empathy (QMEE; Mehrabian & Epstein, 1972). The Interpersonal Reactivity Index (IRI; Davis, 1980) was the first empathy measure that was employed in a multidimensional approach to empathy and the first to distinguish affective from cognitive components (see Table 1.1 and Table 1.2).

Baron-Cohen and Wheelwright (2004) reviewed the methodology of the empathy's assessment in order to elaborate a new measure. They not only attested empathy to be a multidimensional psychological construct but also deemed Davis's (1980) IRI "the best measure of empathy developed to date" (Baron-Cohen & Wheelwright, 2004, p. 166). When developing a new measure, Baron-Cohen and Wheelwright established the Empathy Quotient, which is frequently used to assess empathy in clinical psychology; they tried to assess empathy globally rather than dimensionally. Therefore, the IRI's *perspective-taking* subscale (Davis, 1980; see Table 1.1), described in an earlier section, is the only measure so far to assess the cognitive component of empathy and was used for the following studies.

Manipulating the negotiation situation is possible to assess situational perspective taking. In Epley et al.'s instruction (2006), self-focused individuals were asked directly to indicate their decisions or to display their actual behavior, before any consideration of others' intentions and likely behavior (along non-perspective takers). On the other side, other-focused individuals were instructed to consider others' perspective first. Other-focused individuals were invited to first take a minute to think about the other individuals in the negotiation. The participants were then reminded that others might have different intentions and interests in the negotiation than they. Moreover, they were also likely to see the negotiation situation from another and different perspective. Finally, after predicting others' intentions and likely behavior, other-focused individuals were asked to indicate their decision or to display their actual behavior (along perspective takers).

To avoid any confusion between dispositional and situational factors of perspective taking in the studies described in the following, dispositional perspective taking is categorized into *perspective takers* and *non-perspective takers*, and situational perspective taking is categorized into *other-focused* and *self-focused*.

Social Orientation

To assess dispositional social orientation, different measures have been developed in recent decades. The most well-known measure of social orientation is Liebrand's (1984) "ring measure" of social values. A person's social orientation is assessed by using forced-choice items in matrices in which an individual decides on a preferred allocation of resources between oneself and another person (Messick & McClintock, 1968; McClintock, 1978). The position on the ring, illustrated similar to a car's tachometer, indicates a person's social orientation on a continuum ranging from *altruistic*, *cooperative*, and *individualistic* to *competitive*. Today, to assess dispositional social orientation, the Triple-Dominance Measure of Social Value (TDMSV; Van Lange et al., 1997; see Table 1.3) is often used and was described in an earlier section. In this dissertation, besides the *prosocial* orientation (*altruistic* and *cooperative* orientations), the *individualistic* and *competitive* orientations were aggregated to form a *proself* orientation to attain the two-category structure of social orientation. This two-category schema is also used here to test the triangle hypothesis (Kelley & Stahelski, 1970b), since we also assessed predicted others' social orientation as a continuum of competitiveness (from *cooperative* to *competitive*).

Furthermore, in order to compare situation with disposition, situational social orientation can be manipulated in the negotiation to be either cooperative or competitive. As the review by De Dreu et al. (2000) showed, manipulation by instruction is a frequently used procedure to induce social orientation in negotiations. To manipulate the negotiation situation to be cooperative or competitive, following Epley et al. (2006), we instructed individuals to attain either the highest joint score in cooperative negotiations (along the prosocial orientation) or the highest individual score in competitive negotiations (along the proself orientation).

To be stringent in the studies here and to avoid any confusion between dispositional and situational factors of social orientation, dispositional social orientation is categorized into *prosocial* and *proself*, and situational social orientation is categorized into *cooperative* and *competitive*.

Overview of Chapters 2 and 3

The following section provides an overview of the empirical studies in this dissertation presented in Chapter 2 and Chapter 3, respectively. Further, the section describes the dissertation's aims to contribute to the basic psychological knowledge by investigating reactive egoism in more detail. All of the studies in the two chapters were conducted online; the two studies in Chapter 2 were conducted using the online tool Unipark, and the two studies in Chapter 3 were conducted to simulate the negotiation interactively, simultaneously, and over time, using the software z-Tree (Fischbacher, 2007).

In Chapter 2, “When a Purely Egotistical Individual Does Not Take the Most: Reactive Egoism in Disposition and Situation,” the aim of Study 1 was to assess perspective taking and social orientation as dispositions. Thus, their influence on individuals' behavior in the resource allocation task was measured depending only on personality. In this study, I used a 2 (dispositional perspective taking: perspective takers vs. non-perspective takers) x 2 (dispositional social orientation: prosocial vs. proself) design, by means of a median split of dispositional perspective taking. The participants in the online study were undergraduate students at the University of Zurich in Zurich, Switzerland ($N = 183$).

In Study 2 in Chapter 2, the aim was to investigate the influence of perspective taking and social orientation as situational characteristics on individuals' behavior by their manipulation in the resource allocation task. In this study, I used a 2 (situational perspective taking: other-focused vs. self-focused) x 2 (situational social orientation: cooperative vs.

competitive) experimental design. Furthermore, the interaction of personality and situation was investigated. Participants were members of the general staff of the Swiss Armed Forces ($N = 133$).

The aims of the two studies in Chapter 3, “When a Purely Egotistical Individual Does Not Take the Most: Reactive Egoism over Time,” were congruent. By simulating the resource allocation task finitely repeated over time, and the interactive and simultaneous assessment in groups, a real-life negotiation scenario was created and effects of situational perspective taking were tested. The two studies investigated effects of reactive egoism in negotiations with long-term orientation and considered consequences of individuals’ different levels of experience with negotiation processes and expertise (see Neale & Northcraft, 1986).

In Study 1 in Chapter 3, an almost identical experimental design was employed as in the studies of Chapter 2, using a 2 (situational perspective taking: other-focused vs. self-focused) \times 2 (situational social orientation: cooperative vs. competitive) experimental design over time. The sample consisted of undergraduate students at the University of Zurich ($N = 112$), participating in groups of four and simulating the resource allocation task for 10 consecutive trials.

In Study 2 in Chapter 3, the focus was on situational perspective taking only. Therefore, situational perspective taking (other-focused vs. self-focused) was experimentally manipulated over time in competitive negotiations. The sample was recruited from various organizations (mostly aviation, consulting, finance, and health) in Central Europe with business leaders ($N = 60$), participating in groups of three. The study simulated the resource allocation task for 13 consecutive trials.

To focus on reactive egoism, in the first study of Chapter 2, dispositional perspective taking and dispositional social orientation were assessed without manipulation of situational characteristics in the resource allocation task. In contrast, in the following three studies, the

occurrence of reactive egoism was investigated by the manipulation of situational perspective taking and situational social orientation. The two studies in Chapter 3 examined effects of reactive egoism over time. Moreover, in the second study of this chapter, I additionally investigated whether perspective taking only evokes reactive egoism or whether mutual cooperation, even in competitive resource allocations, is possible.

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CHAPTER 2

WHEN A PURELY EGOTISTICAL INDIVIDUAL DOES NOT TAKE THE MOST: REACTIVE EGOISM IN DISPOSITION AND SITUATION

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Abstract

The studies in this chapter investigate effects of social orientation and perspective taking on individuals' behavior in a resource allocation task. The research question is whether reactive egoism, the reactively increased egotistical behavior through taking others' perspective, is caused by personality or the situation. In Study 1, social orientation and perspective taking are operationalized as dispositional factors, in Study 2 as situational factors. In Study 1, undergraduate students ($N = 183$) acted as representatives of an association in a resource allocation task. The findings showed both dispositions to influence individuals' behavior; prosocial individuals and perspective takers cooperated significantly more than proself individuals and non-perspective takers did. In Study 2, the resource allocation task was simultaneously performed by leadership-experienced members of the Armed Forces ($N = 133$). The findings showed that perspective taking and social orientation as situational characteristics influenced individuals' behavior, and caused reactive egoism in other-focused individuals.

Keywords: perspective taking, reactive egoism, social orientation, resource allocation

A “mackerel war” is going on in the North-East Atlantic Ocean. Debates and conflicts on fishing quotas of mackerels have become a mackerel war (Seidler, 2013). On the one hand, all the involved parties’ (i.e., Iceland, Faroe Islands, Norway, and the EU) interests are to increase harvesting and consequently to increase profit for their own economy, or to maintain current levels of harvest to maintain their own profit. However, on the other hand, increased harvesting of mackerels leads to a reduction of the fish population and, in the worst case, to its depletion. At the moment, the harvest of many fish is far too high – not only of mackerels. Therefore, in 2012 the International Council for the Exploration of the Sea (2012) suggested a drastic reduction of harvesting.

The current research investigates whether the effect of reactive egoism – reactively increased egotistical behavior through taking others’ perspective (Epley, Caruso, & Bazerman, 2006) – is a potential source of conflict in social dilemmas, and whether reactive egoism is caused by dispositional or situational characteristics.

Social Dilemmas

This sort of social dilemma, in which resources are allowed to be used or to be taken from a common pool, is called a *commons dilemma* or *resource dilemma* (Wade-Benzoni, Tenbrunsel, & Bazerman, 1996). Despite the resource being available for harvest, it is finite and must be managed to prevent its depletion. Most resources are scarce to begin with, and those resources that seem unlimited (e.g., water, air, or soil) see their use regulated by institutions, rendering them scarce through regulation. This scarcity increases due to the long lengths of time needed to develop the resource or due to their extensive demand and use (e.g., oil, wood, or energy). Since the maintenance of the resource is essential in resource dilemmas, conflicts may arise due to diverging interests between the individual and the collective (Van Dijk, De Cremer, Mulder, & Stouten, 2008).

As the mackerel war example shows, short-term self-interest in increased profits by maximizing the harvest of mackerels is in conflict with long-term collective interest in maintenance of the mackerel population of maximizing joint profit. This dilemma arises from the differing incentive structures within the negotiation. Choosing self-interested strategies to increase the highest individual gain leads to poorer overall outcomes for all individuals involved and possibly leads to a depletion of the resource. Thus, to reach the highest joint outcome, each individual involved in the negotiation must be relied upon to choose strategies that result in lower individual outcomes.

According to Weber, Kopelman, and Messick (2004), two characteristics of social dilemmas can be defined. First, individual gain is higher when making self-interested, or even selfish, choices than when making cooperative choices, regardless of what the other participants choose to do. For Iceland and the Faroe Islands, the self-interested choice of increased mackerel harvesting has led to a higher income. However, Norway and the EU chose to react to this overharvesting, as they saw it affecting their self-interests. Second, when the individuals involved make self-interested choices, every individual subsequently receives less. As Iceland and the Faroe Islands have drastically increased their mackerel harvest, they have decreased not only Norway's and the EU's harvest and their respective incomes, but also their own long-term profit, since the future mackerel population will have been decreased by overfishing.

Individuals' strategies are even more important in negotiations on scarce resources, i.e., resources that are not available entirely or in an unlimited amount for all individuals involved (e.g., Balliet, Parks, & Joireman, 2009). Wade-Benzoni et al. (1996) argue that for an individual, regardless of others' behavior, more benefit is always made by a non-cooperative choice than a cooperative choice, whereas a non-cooperative choice is always more harmful for others than a cooperative choice. Moreover, for all individuals involved, a

non-cooperative choice is more harmful for others than the benefit for the individual (see also Dawes, 1980; Messick & Brewer, 1983). These characteristics also apply for resource dilemmas as presented in the conflict over mackerel fishing. At the same time, the dilemma of conflicting individual and collective interests is a potential threat to scarce resources, since in the resource dilemma, non-cooperative choices made by the majority of the individuals involved are likely to cause a depletion of resources (Biel & Gärling, 1995; Van Lange, Liebrand, Messick, & Wilke, 1992), as they caused the mackerel war described above.

The focus of this chapter is to investigate individuals' behavior in social dilemmas, depending on the *personality* of individuals involved and on the *situation* of the negotiation. In the first study, individuals are predicted to behave in the social dilemma according to their disposition. In the second study, however, individuals are instructed within the situation to take others' perspective and are predicted to show *reactive egoism* (Epley et al., 2006) – the effect of reactively increased egotistical behavior due to a biased prediction of others being self-interested when taking others' perspective.

Social Orientation

In negotiations with interdependence, individuals' types of motives on how to assign outcomes to themselves and others are called *social (value) orientation* (McClintock, 1978). In social dilemmas, an individual's social orientation is one of the most influential characteristics and is defined as the social preference of allocating resources between oneself and others (Van Lange, 1999). Four different preferences are characterized in the typology proposed by Liebrand (1984) and reviewed by De Dreu, Weingart, and Kwon (2000): an altruistic, a cooperative, an individualistic, and a competitive orientation. An altruistic orientation is characterized by maximizing the others' outcomes, whereas a cooperative orientation is characterized by maximizing the joint outcome in which all individual outcomes

are summed up to reach the highest joint outcome possible. Because the altruistic orientation and particularly the cooperative orientation emphasize common interests much more than individual self-interests, they are both labeled as prosocial orientation. In contrast, an individualistic orientation is characterized by maximizing the individual outcome with no or just a little regard for the outcomes of others. Finally, a competitive orientation is characterized by maximizing the difference of outcomes between oneself relative to outcomes of others. Because the individualistic orientation and the competitive orientation focus more on self-interests than on common interests, both are seen as proself orientation (Van Lange, 1999; Van Lange, Liebrand, & Kuhlman, 1990; see also Balliet et al., 2009; Bogaert, Boone, & Declerck, 2008; Loschelder, Swaab, Trötschel, & Galinsky, 2014; Trötschel, Hüffmeier, Loschelder, Schwartz, & Gollwitzer, 2011; Van Lange, 2000).

These social preferences directly refer to the distribution of resources. Another rather similar model of “govern[ing] the exchange of benefits in relationships” (Chen, Lee-Chai, & Bargh, 2001, p. 175) was formulated by Clark and Mills (1979). Their model of relationship orientation recognizes a communal orientation and an exchange orientation. Whereas people with a *communal* orientation are focused primarily on responding to the needs and interests of others, people with an *exchange* orientation are focused primarily on the giving and receiving of benefits. So, whereas the focus of the communal orientation is on the interests of others, or at least on common interests, and is therefore a *prosocial* orientation, the exchange orientation centers on interests of the self and is therefore a *proself* orientation.

Chen et al. (2001) showed that exchange-oriented participants acted more proself by appointing less task workload to themselves and higher task workload to another fictitious participant. In these experiments, workload served as a burden (measured in minutes per task) that particularly exchange-oriented participants wanted to avoid. On the other hand, communally-oriented participants acted prosocially and allocated a higher amount of

workload to themselves and less to another fictitious participant than exchange-oriented participants did. In all, Chen et al. (2001) showed that individuals behaved more other-interested and empathetically when they were communally-oriented and more self-interested and egotistically when they were exchange-oriented. The question arises though in which characteristic communally-oriented individuals differ from exchange-oriented individuals.

Empathy and Perspective Taking

An “empathetic” individual acts more altruistically and prosocially, whereas an “egotistical” individual acts more proself. However, participants in the studies by Chen et al. (2001) had to cognitively consider *consequences* of others by allocating task workloads but not to cognitively consider *other individuals*. To consider other individuals, and particularly to take the perspective of other individuals, is understood as empathetic behavior (Oswald, 1996). Eisenberg’s (1991) notion that perspective taking activities are distinct preconditions of empathy supports this view.

Nevertheless, empathy exhibits many facets. Work by Davis (1980, 1983) on separating cognitive aspects of empathy from affective aspects was resumed by Oswald (1996), who managed to distinguish clearly between cognitive perspective taking and affective perspective taking. The latter defines what regularly is described as empathy, and is defined as the “ability to identify and understand how another person is *feeling*” (Oswald, 1996, p. 614). Research has shown that affective perspective taking leads to consistently empathetic behavior, such as altruism and helping (see Batson & Powell, 2003). According to Oswald (1996), the “ability to recognize and understand the *thoughts* of others” (p. 614) refers to *cognitive* perspective taking. In contrast to affective perspective taking, empathetic behavior is not necessarily shown when cognitively considering others (e.g., Galinsky, Maddux, Gilin, & White, 2008; Pierce, Kilduff, Galinsky, & Sivanathan, 2013).

In negotiations that involve social interactions and interdependence, cognitive perspective taking is likely to be beneficial for oneself, since taking others' perspective "allows an individual to anticipate the behavior and reactions of others" (Davis, 1983, p. 115). Actually, cognitive consideration of others might be much more self-serving, or proself oriented, than prosocial oriented (Gilin, Maddux, Carpenter, & Galinsky, 2013). In several studies, Epley et al. (2006) showed that other-focused participants, who focused cognitively on the perspective of others, rated others as more self-interested in negotiations and took a higher amount of the resource in social dilemmas for themselves. Self-focused participants that had not cognitively taken the perspective of others but simply decided on their own attitude and position did not show reactive egoism.

Apparently, the framing of the situational context moderates the relationship of empathetic individuals who take others into account and subsequent behavior in social interactions. In their Study 4, Epley et al. (2006) used the framing of negotiations, either cooperative or competitive, as a moderator to examine the influence of perspective taking on individuals' reactive behavior. The framing of cooperation and competition was based on the negotiation's situational manipulation of social orientation. Thus, these dispositional social preferences may possibly be manipulated by the structure of the negotiation and therefore may represent characteristics of the *situation* instead of the *personality* (De Dreu et al., 2000; Weber et al., 2004).

Prediction of Others

As noted above, an important aspect in negotiations, particularly in social dilemmas, is one's belief concerning the other participants' behavior (Aksoy & Weesie, 2012, 2014). Reactive egoism describes an effect whereby individuals choose certain strategies as a reaction to their prediction of others' intentions and respective behavior in a social interaction,

and particularly in interactions with interdependence (De Cremer, Snyder, & Dewitte, 2001; Kelley & Thibaut, 1978). Therefore, to consider others' social orientation before starting a negotiation can be good advice. At the same time, as seen in the effect of reactive egoism, the prediction concerning others' behavior may not always be accurate and might mislead one's own behavior in return.

According to the "triangle" hypothesis (Kelley & Stahelski, 1970), individuals can be categorized as either cooperators or as competitors. The triangle hypothesis assumes that competitors predict others to be competitive only, whereas cooperators predict that others are cooperative *or* competitive. According to Aksoy and Weesie (2012, 2014), in negotiations including both a cooperator and a competitor, competitors choose only a non-cooperative strategy, since that is their social orientation, whereas cooperators' strategy is dependent of others' behavior. This particular insecurity concerning whether the others will cooperate is called *social uncertainty* (Wit & Wilke, 1998).

From competitors' perspective, social uncertainty does not exist. Whether the other negotiators are competitive or cooperative becomes irrelevant for the competitor. Even if the other negotiators were cooperative, mutual cooperation is no longer possible, and, as a consequence, cooperators' strategy becomes competitive, too. From cooperators' perspective, in contrast, the other negotiators' intentions might be predicted cooperative or competitive. In social dilemmas, however, others are likely predicted to behave competitively due to perceived interdependence and social uncertainty. As a consequence, when interacting with (predicted) competitive others, it is reasonable for the cooperator to behave competitively rather than to behave cooperatively.

A change in a cooperator's strategies is even more likely in uncertain situations (Messick, Allison, & Samuelson, 1988). The negotiation situation itself can be induced to be either cooperative or competitive, according to the structure of the task (De Dreu et al., 2000;

Weber et al., 2004). In case of an assumed competitive social interaction with interdependence (Kelley & Thibaut, 1978) it is likely that individuals predict that others are competitive based on the predicted structure of the situation instead of the others' predicted personality. As a conclusion, also cooperators might show reactive egoism due to social uncertainty – irrespective whether social uncertainty results from the others' predicted competitive *personality* or the predicted competitive characteristic of the negotiation *situation*.

The Current Research

In this chapter, we investigate individuals' behavior depending on social orientation and perspective taking in resource dilemmas. In Study 1, our focus is on dispositional factors of social orientation and perspective taking. For these dispositional factors, we predict prosocial individuals to cooperate more by taking a lower amount of the resource than proself individuals (Hypothesis 1a), and perspective takers to cooperate more by taking a lower amount of the resource than non-perspective takers (Hypothesis 1b). In Study 2, our focus is on situational factors of social orientation and perspective taking. Self-focused individuals' behavior should not be influenced by the prediction of others. Therefore, these individuals are supposed to behave consistently between predictions of others' behavior and own behavior, and to cooperate more in the cooperative negotiation condition than in the competitive negotiation condition (Hypothesis 2a). In contrast, other-focused individuals are supposed to behave inconsistently between predictions of others' behavior and own behavior due to the influence of taking others' perspective, and to subsequently increase their egotistical behavior (Hypothesis 2b) – due to social uncertainty and reactive egoism.

To test our predictions in these studies, we remodeled the resource dilemma by Wade-Benzoni et al. (1996) in a symmetrical version (i.e., identical interests in outcomes among

individuals). The fully online conducted resource allocation task is the same in Study 1 and Study 2, allowing the two samples to be compared along the situational and dispositional factors.

Study 1

In Study 1, we first investigate the effects of dispositional social orientation and dispositional perspective taking on individuals' behavior, measured as the amount of the resource taken in a resource allocation task. We suppose that perspective takers and individuals with a prosocial orientation both have the motivation to take others' perspective into account and to consider others' intentions. Although these two personality characteristics originate from different fields of psychological research, both constructs are supposed to result in the same behavioral outcome in resource dilemmas. For dispositional social orientation, we predict that prosocial individuals will take less of the resource (cooperate more) than proself individuals do, since prosocials' primary goal is to reach a maximum joint outcome, and they are therefore more willing to cooperate with their negotiation partners (Hypothesis 1a). For dispositional perspective taking, we predict that perspective takers will take less of the resource (cooperate more) than non-perspective takers do, since their consideration of others leads perspective takers to reduce self-interests (Hypothesis 1b).

Method

Participants. In total, 183 undergraduate students ($M = 23.3$ years, $SD = 5.9$ years) at the University of Zurich completed an online questionnaire and a resource allocation task. The sample consisted mostly of women participants (women: $n = 154$, 84.2%; men: $n = 29$, 15.8%).

Design. We used a 2 (dispositional social orientation: prosocial vs. proself) x 2 (dispositional perspective taking: perspective takers vs. non-perspective takers) design, by means of a median split of dispositional perspective taking.

Procedure. Participants started the study, which was conducted in German, by opening the online link in the invitation e-mail. After reading general information about the study, participants first completed a personality questionnaire that included measures of dispositional social orientation and dispositional perspective taking. Next, participants completed a resource allocation task. Afterwards, demographic and control variables were assessed. Finally, participants were thanked and debriefed on the intent of the study.

Resource allocation task. After completing questionnaires on personality characteristics, participants received general information about the resource dilemma. The task used in Study 1 was adopted from Wade-Benzoni et al. (1996) and represents a resource allocation task concerning the harvesting of fish (measured in metric tons). We computed a symmetrical online version of the dilemma in which all four fishery associations are equal in business size, economic return, equipment, and employees. Each participant acted in the role of an association's representative. Participants were told that the resource allocation task included four fishery associations. Whereas the task was remodeled concerning the information provided, the task followed the structure by Wade-Benzoni et al. (1996). The instruction briefed participants to maximize individual profit for their individual fishery association but at the same time to maintain the level of the resource and thus to avoid its depletion. The starting level of harvest for all four associations involved is at their maximum capacity. To reach a sustainable harvesting level, a reduction of the consumption of all four associations by half is necessary. This prevents overharvesting and the consequent depletion of the resource. At the same time, the associations need to take at least one-fifth of their capacity to stay in business.

Participants were instructed to make decisions concerning the resource harvesting as the association's representative. First, general information about the setting of the resource allocation task was provided. Second, information about their own fishery association was

shown, including information about their current business activities, equipment, and employees. Third, detailed information about the other three fishery associations was displayed, including, in a short summary, the same information as for the participant's own association. Then, participants had to indicate the amount of the resource to take for the next year, in other words, the next year's harvest by their own association (in metric tons). Because the entire procedure was online, participants had no knowledge of the other participants or with whom they were fictitiously negotiating.

Measures.

Social orientation. Dispositional social orientation was assessed by the Triple-Dominance Measure of Social Values (Van Lange, Otten, De Bruin, & Joireman, 1997), including nine decision tasks in which participants were instructed to choose one of three different allocation distributions, labeled A, B, and C in the matrix. These distributions of values are arranged in matrices reflecting points that are to be allocated to oneself and to another person. The three different choices match the three different social preferences. The choice for highest total amount of the two values (maximizing joint outcome) reflects a prosocial preference, the choice for highest single value for oneself (maximizing own outcome) reflects an individualistic preference, and the choice for highest difference of the value for oneself compared to the value of the other (maximizing relative outcome) reflects a competitive preference. Each choice in a matrix was presented on a single page.

To categorize participants according to one of the three social preferences, six of the nine choices needed to be consistent. If fewer than six choices were consistent, participants were not categorized. For subsequent analysis concerning dispositional social orientation, these participants were not considered. In the overall sample, 100 participants (54.6%) were categorized as prosocial, 48 participants (26.2%) as individualistic, and 10 participants (5.5%) as competitive. The remaining 25 participants (13.7%) made five or fewer consistent choices

and therefore could not be assigned to one of the three categories. For the subsequent analysis, 58 participants (36.7%) categorized either as individualistic or as competitive comprised the prosself category.

Perspective taking. Dispositional perspective taking was assessed using the *perspective-taking* subscale of the Interpersonal Reactivity Index (Davis, 1980). This subscale consists of seven items; an example item is: “I try to look at everybody’s side of a disagreement before I make a decision.” The response format is a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*). At the aggregated level, participants scored relatively highly ($M = 3.60$, $SD = 0.53$). The scale’s Cronbach’s α was .71.

Dependent variable. The decision about the amount of the resource to take for the own association for the next year (i.e., *resource taking*) was measured by participants indicating the amount of fish harvest in metric tons.

Results

Dispositional social orientation and dispositional perspective taking. We first tested the relationship of our two independent variables. As predicted, the results indicated a small but significant relationship between dispositional social orientation and dispositional perspective taking ($r_{pb} = .26$, $p = .001$). Prosocial participants ($M = 3.70$, $SD = 0.52$) scored significantly higher on dispositional perspective taking than prosself participants ($M = 3.41$, $SD = 0.52$) did.

Resource taking. We investigated the effects of these two dispositional factors in a 2 (dispositional social orientation: prosocial vs. prosself) x 2 (dispositional perspective taking: perspective takers vs. non-perspective takers) ANOVA, with the amount of the resource taken (in metric tons) as the dependent variable. To assess differences due to the dispositional factors, we used the two-category schema of dispositional social orientation (prosocial vs.

proself) and a two-category schema of dispositional perspective taking (perspective takers vs. non-perspective takers), the latter by a median split. The main effect of dispositional social orientation showed that prosocial participants ($M = 595.12$, $SD = 263.17$) took a significantly smaller amount of the resource than proself participants ($M = 715.95$, $SD = 273.81$), $F(1, 154) = 4.670$, $p = .032$, *did*; see Figure 2.1. Thus, the finding supports Hypothesis 1a.

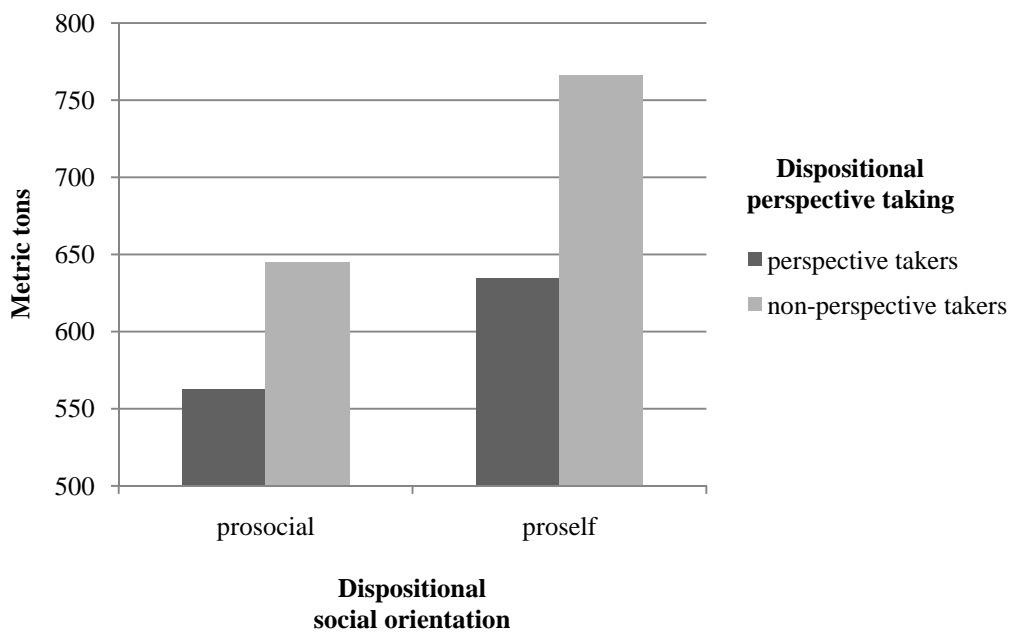


Figure 2.1. Amount of the resource taken as a function of dispositional social orientation and dispositional perspective taking.

The main effect of dispositional perspective taking revealed that perspective takers ($M = 581.49$, $SD = 265.80$) took a significantly smaller amount of the resource than non-perspective takers ($M = 702.04$, $SD = 267.58$; see Figure 2.1), $F(1, 154) = 5.730$, $p = .018$, *did*. This finding is in line with Hypothesis 1b. As predicted, the main effects showed that prosocial individuals and perspective takers cooperated more in the resource allocation task by taking a smaller amount of the scarce resource. The interaction was non-significant, $F(1, 154) = 0.307$, $p = .580$.

Discussion

In Study 1, we investigated the influence of two dispositional factors, social orientation and perspective taking, on individuals' behavior in a resource allocation task. For both dispositions, we predicted that individuals who consider other individuals (i.e., prosocial individuals and perspective takers) would cooperate more than individuals who do not consider other individuals (i.e., proself individuals and non-perspective takers). The results showed that both dispositional factors influenced individuals' behavior according to our predictions, supporting Hypothesis 1a and Hypothesis 1b. Considering others led individuals to cooperate by taking a smaller amount of the resource. Not surprisingly, the two personality characteristics are significantly correlated, even though they measure different facets of a negotiator's personality (see also Trötschel et al., 2011).

In this study, individuals' behavior was assessed in a negotiation situation in which they acted according to their disposition only. There was no manipulation in the negotiation situation, neither by instruction nor by incentive structure, to be cooperative or competitive. In the following study, we consider social orientation and perspective taking as situational characteristics of the negotiation by their manipulation in the resource allocation task.

Study 2

As Study 1 showed, dispositional factors influence individuals' behavior. As compared to Study 1, in Study 2 we predict that social orientation and perspective taking as situational factors will have different effects than dispositional factors. Furthermore, the simultaneous presence of others induces perceived interdependence and social uncertainty in the social interaction and is supposed to influence the actual behavior and furthermore others' predicted behavior in the resource allocation task.

In this study, we suppose effects of situational perspective taking to be influenced by the negotiation's framing to be cooperative or competitive, as demonstrated by Epley et al. (2006). Self-focused individuals give less consideration to others' perspective and thus are not influenced by others' assumed behavior. Therefore, these individuals are predicted to behave consistently between their initial estimation of a fair amount of the resource to take and their subsequent behavior in cooperative and competitive negotiations (Hypothesis 2a). In contrast, predicting others' behavior, other-focused individuals should react by reactive egoism.

In general, social uncertainty should be smaller in competitive negotiations than in cooperative negotiations. This follows the logic of the triangle hypothesis, predicting that in competitive negotiations, other individuals' behavior is highly likely to be competitive due to the negotiation's unambiguousness. The others' assumed competitiveness then should cause reactively increased egotistical behavior. In contrast, in cooperative negotiations the situation is more ambiguous. Here, we predict reactive egoism to occur by social uncertainty. In cooperative negotiations, other-focused individuals are assumed to increase their egotistical behavior due to the uncertainty of others' cooperation and the uncertainty of the situation's cooperative characteristic. In conclusion, individuals in the other-focused condition are supposed to behave inconsistently between their initial estimation of a fair amount of the

resource to take and their subsequent behavior after having taken others' perspective into account. Therefore, we predict individuals in the other-focused condition to reactively increase their egotistical behavior in competitive as also in cooperative negotiations due to reactive egoism (Hypothesis 2b).

Method

Participants. In total, 133 general staff members (professional military officers) of the Swiss Armed Forces ($M = 35.2$ years, $SD = 5.8$ years) completed an online questionnaire and a resource allocation task. The sample mostly consisted of men (women: $n = 3$, 2.3%; men: $n = 130$, 97.7%). On average, leadership experience was high ($M = 12.8$ years, $SD = 5.5$ years).

Design. We used a 2 (situational social orientation: cooperative vs. competitive) x 2 (situational perspective taking: other-focused vs. self-focused) between-subjects design.³

Procedure. For our recruitment, we visited internal courses of the Swiss Armed Forces. Data collection took place during five sessions over a period of several months. In each session, group members of the respective courses first attended an introduction and were then informed about the procedure of this study. Afterwards, participants copied the online link to their individual laptop computer stations and started the study at their individual working place in the classroom. After choosing the language (German or French), participants first had to provide demographic and various military and professional information.

³ Previous research (Epley et al., 2006) was able to manipulate situational negotiation conditions for social orientation (cooperative vs. competitive) and perspective taking (other-focused vs. self-focused) through instructions. Therefore, situational conditions were manipulated orthogonally even though social orientation and perspective taking are related as dispositional characteristics (in Study 1).

Afterwards, participants started the resource allocation task. Finally, participants were thanked and debriefed on the intent of the study.

Resource allocation task. As in Study 1, the same resource allocation task was randomly played in one of the four conditions, described below. No changes in minimum and maximum amounts of potential resource taking were made in order to allow a comparison between the studies. As in Study 1, participants responded to measures of dispositional social orientation and dispositional perspective taking.

Conditions of situational social orientation and situational perspective taking. In this study, we manipulated both social orientation and perspective taking as situational factors of the negotiation. To manipulate the negotiation's social orientation, we instructed participants to either maximize joint outcome with three other participants (cooperative), or to maximize their own individual outcome (competitive). Perspective taking was manipulated by instructing participants to either first allocate their amount of the resource before predicting others' social orientation and others' resource taking (self-focused), or to first consider others' behavior, i.e., predicting others' social orientation and others' resource taking, and then to decide on the amount of the resource to take for themselves (other-focused).

Measures.

Social orientation. To test for dispositional factors that may influence manipulated situational conditions, dispositional social orientation was additionally assessed by the Triple-Dominance Measure of Social Value (Van Lange et al., 1997). Of the overall 133 participants, 66 participants (49.6%) were categorized as prosocial, 46 participants (34.6%) as individualistic, 9 participants (6.8%) as competitive, and for 12 participants (9.0%) no assignment to one of the three categories was possible because fewer than six choices were consistent. The 121 participants who could be categorized resulted in 66 (54.5%) prosocial participants and 55 (45.5%) proself participants. It is important to note that the sample

consisted of a particularly high percentage of individualistic participants. This may be due to a rather prosocial culture of the leadership assessment for the general staff in the Armed Forces.

Perspective taking. Dispositional perspective taking was assessed using the relevant *perspective-taking* subscale of the Interpersonal Reactivity Index (Davis, 1980). Overall, participants rated themselves about the same as in Study 1 ($M = 3.60$, $SD = 0.50$). The scale showed a Cronbach's alpha of .69, but was only used as a control measure for dispositional influences.

Dependent variables. As in Study 1, we used *resource taking* as the dependent variable. Additionally, like Epley et al. (2006), we measured *fairness estimation* by participants' estimation of a fair percentage to take for their own association in relation to their individual necessary minimum and possible maximum. Furthermore, we assessed *others' predicted resource taking* which indicated participants' prediction of the other three associations' resource taking for the next year. Finally, *others' predicted social orientation* was assessed using a 6-point scale (1 = *very cooperative*, 6 = *very competitive*).

Results

Preliminary analysis. We first tested the potential influence of the measured personality characteristics on resource taking. Whereas dispositional perspective taking, $t(131) = 0.547$, $p = .586$, did not directly influence resource taking, dispositional social orientation, $t(119) = 1.925$, $p = .057$, did have an additional, marginally significant influence on resource taking. Prosocial participants ($M = 870.05$, $SD = 312.34$) took a larger amount of the resource than prosocial participants ($M = 765.26$, $SD = 285.88$) did, indicating that prosocial individuals tended to cooperate more than prosocial individuals did, irrespective of conditions. Therefore, in the following analysis, we included dispositional social orientation (prosocial vs. prosocial) as a covariate.

Situational social orientation and situational perspective taking.

Resource taking. We calculated a 2 (situational social orientation: cooperative vs. competitive) x 2 (situational perspective taking: other-focused vs. self-focused) ANCOVA, with dispositional social orientation (prosocial vs. proself) as the covariate and the amount of the resource taken (in metric tons) as the dependent variable. Neither main effect for situational social orientation, $F(1, 116) = 1.072, p = .303$, nor for situational perspective taking, $F(1, 116) = 1.115, p = .293$, was significant. However, the results tended in the assumed direction, with a larger amount of the resource being taken in the competitive negotiation condition ($M = 832.38, SD = 288.47$) than in the cooperative negotiation condition ($M = 793.08, SD = 315.43$), and a larger amount of the resource being taken in the other-focused condition ($M = 836.23, SD = 289.01$) than in the self-focused condition ($M = 789.17, SD = 314.38$).

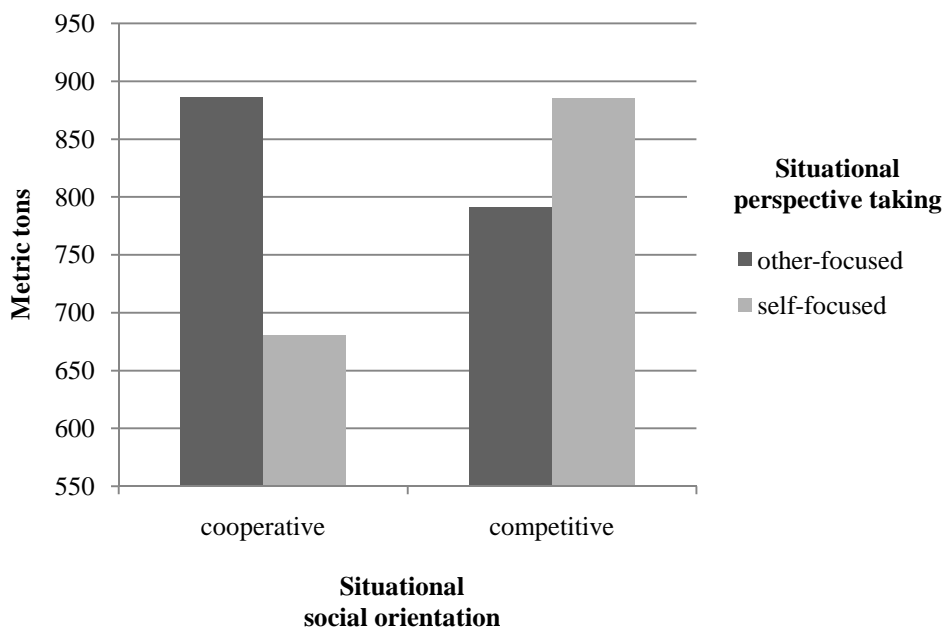


Figure 2.2. Amount of the resource taken as a function of situational social orientation and situational perspective taking.

The interaction of situational social orientation and situational perspective taking was significant, $F(1, 116) = 8.032, p = .005$, as shown in Figure 2.2. In the cooperative negotiation condition, participants in the self-focused condition ($M = 687.07, SD = 302.38$) took significantly less of the resource than participants in the other-focused condition ($M = 892.26, SD = 298.84$), $t(57) = 2.275, p = .027$, did. In the competitive negotiation condition, participants in the self-focused condition ($M = 884.68, SD = 299.21$) allocated to themselves a non-significantly larger amount of the resource than participants in the other-focused condition ($M = 778.33, SD = 271.31$), $t(58) = 0.175, p = .862$, did. Inspecting this interaction differently, in the self-focused condition participants allocated more of the resource to themselves in the competitive than in the cooperative condition, whereas in the other-focused condition participants took a larger amount of the resource in the cooperative than in the competitive negotiation condition.

Consistency between predictions and behavior. Fairness estimation was assessed before the manipulations of situational social orientation and situational perspective taking were done, and, therefore, no differences on fairness estimation had been predicted.⁴ Taking subsequent behavior in cooperative and competitive negotiations into account, participants in the self-focused condition remained consistent between their fairness estimation and their amount of the resource taken ($r = .35, p = .006$) as well as between their fairness estimation and others' predicted social orientation ($r = .29, p = .028$), and between their fairness

⁴ We calculated a 2 (situational social orientation: cooperative vs. competitive) x 2 (situational perspective taking: other-focused vs. self-focused) ANCOVA, with dispositional social orientation (prosocial vs. prosself) as the covariate and fairness estimation as the dependent variable. Indeed, main effects of situational social orientation, $F(1, 116) = 2.083, p = .152$, situational perspective taking, $F(1, 116) = 1.358, p = .246$, and the interaction, $F(1, 116) = 1.563, p = .214$, were all non-significant.

estimation and others' predicted resource taking ($r = .28, p = .031$). Furthermore, participants in the self-focused condition were consistent between others' predicted social orientation and their amount of the resource taken ($r = .42, p = .001$). This consistency between predictions and behavior of participants in the self-focused is in line with Hypothesis 2a.

In the self-focused condition, participants not only rated a higher percentage of the resource to take as fair in the competitive negotiation condition (comp) compared to the cooperative negotiation condition (coop; $M_{\text{coop}} = 44.17, SD_{\text{coop}} = 21.80; M_{\text{comp}} = 54.94, SD_{\text{comp}} = 25.74$), $t(59) = 1.784, p = .080$, but also took a larger amount of the resource in the competitive negotiation condition compared to the cooperative negotiation condition ($M_{\text{coop}} = 687.07, SD_{\text{coop}} = 302.38; M_{\text{comp}} = 884.68, SD_{\text{comp}} = 299.21$), $t(59) = 2.627, p = .011$. Moreover, participants in the self-focused condition also rated others' predicted behavior to be more competitive ($M_{\text{coop}} = 3.79, SD_{\text{coop}} = 1.63; M_{\text{comp}} = 4.35, SD_{\text{comp}} = 1.23$), $t(59) = 1.449, p = .153$, and others' amount of the resource taken to be larger ($M_{\text{coop}} = 734.07, SD_{\text{coop}} = 328.37; M_{\text{comp}} = 926.61, SD_{\text{comp}} = 260.36$), $t(59) = 2.490, p = .016$, in the competitive negotiation condition than in cooperative negotiation condition.

Participants in the other-focused condition, however, behaved inconsistently between their fairness estimation and their amount of the resource taken ($r = .03, p = .799$) as well as between their fairness estimation and others' predicted social orientation ($r = .06, p = .647$), and between their fairness estimation and others' predicted resource taking ($r = .01, p = .934$). Furthermore, participants in the other-focused condition were inconsistent between others' predicted social orientation and their amount of the resource taken ($r = .13, p = .920$). This finding supports Hypothesis 2b and confirms that other-focused participants behaved inconsistently in cooperative and competitive negotiations due to prediction of others' behavior – induced by social uncertainty and reactive egoism.

In the other-focused condition, participants estimated a rather small percentage of the resource to take as fair ($M_{\text{coop}} = 44.52$, $SD_{\text{coop}} = 23.54$; $M_{\text{comp}} = 44.33$, $SD_{\text{comp}} = 18.87$), $t(60) = 0.171$, $p = .865$, but consequently predicted others to be highly competitive ($M_{\text{coop}} = 4.48$, $SD_{\text{coop}} = 1.18$; $M_{\text{comp}} = 4.33$, $SD_{\text{comp}} = 1.24$), $t(60) = 0.437$, $p = .664$, and to take a large amount of the resource ($M_{\text{coop}} = 912.74$, $SD_{\text{coop}} = 288.75$; $M_{\text{comp}} = 902.50$, $SD_{\text{comp}} = 239.19$), $t(60) = 0.193$, $p = .848$. Interestingly, the effect of predicting others as competitive was even stronger in the cooperative negotiation condition – due to social uncertainty. Furthermore, participants in the other-focused condition also took a large amount of the resource for themselves ($M_{\text{coop}} = 892.26$, $SD_{\text{coop}} = 298.84$; $M_{\text{comp}} = 778.33$, $SD_{\text{comp}} = 271.31$), $t(60) = 1.256$, $p = .214$.

Dispositional social orientation and dispositional perspective taking. As in Study 1, we tested intercorrelations of the two independent variables, dispositional social orientation and dispositional perspective taking. We found the same result as in Study 1, indicating that there was a significant relationship between dispositional social orientation and dispositional perspective taking ($r_{\text{pb}} = .26$, $p = .004$). Again, prosocial participants ($M = 3.73$, $SD = 0.46$) scored significantly higher on dispositional perspective taking than proself participants ($M = 3.47$, $SD = 0.51$) did.

Interaction of disposition and situation. Overall, dispositional perspective taking did not interact with situational conditions, whereas participants' dispositional social orientation did. In the following analysis, dispositional social orientation was considered as an independent variable. We calculated 2 (situational social orientation: cooperative vs. competitive) x 2 (dispositional social orientation: prosocial vs. proself) ANOVAs, with the amount of the resource taken (in metric tons), others' predicted social orientation, and others' predicted amount of the resource taken (in metric tons) as dependent variables.

Resource taking. For resource taking, the interaction of the two measures of social orientation, situational and dispositional, was significant, $F(1, 117) = 6.210, p = .014$. The interaction revealed that proself participants in the competitive negotiation condition ($M = 982.29, SD = 265.64$) took a larger amount of the resource than in the cooperative negotiation condition ($M = 783.16, SD = 51.36$), $t(53) = 2.451, p = .018$. In contrast, prosocial participants did not differ between the cooperative negotiation condition ($M = 803.69, SD = 313.41$) and the competitive negotiation condition ($M = 735.14, SD = 262.76$), $t(64) = 0.966, p = .337$.

Predictions of others. As for resource taking, the interaction of situational and dispositional social orientation was significant for others' predicted social orientation, $F(1, 113) = 6.471, p = .012$, as well as for others' predicted resource taking, $F(1, 113) = 5.503, p = .021$. Proself participants predicted others to be more competitive in the competitive negotiation condition ($M = 4.63, SD = 1.44$) than in the cooperative negotiation condition ($M = 3.81, SD = 1.49$), $t(53) = 2.045, p = .045$. In contrast, prosocial participants did not differ in others' predicted behavior between the cooperative negotiation condition ($M = 4.52, SD = 1.33$) and the competitive negotiation condition ($M = 4.16, SD = 1.04$), $t(64) = 1.219, p = .227$. Moreover, proself participants predicted others to take a significantly larger amount of the resource in the competitive negotiation condition ($M = 982.29, SD = 235.73$) than in the cooperative negotiation condition ($M = 762.52, SD = 321.61$), $t(53) = 2.811, p = .007$, whereas prosocial participants predicted that others would take about the same amount of the resource in the cooperative negotiation condition ($M = 894.66, SD = 306.72$) as in the competitive negotiation condition ($M = 870.95, SD = 249.62$), $t(64) = 0.346, p = .730$.

Additional findings: Discontinuity effect between samples. Comparing the amount of the resource taken of the rather low-power undergraduate sample of Study 1 with the high-power general staff sample of the Armed Forces in Study 2, a significant effect resulted. For resource taking, individuals in Study 2 ($M = 817.00, SD = 304.55$) took a significantly larger

amount of the resource than individuals in Study 1 ($M = 642.52$, $SD = 268.32$), $F(1, 314) = 29.093$, $p = .000$, did. Furthermore, individuals in Study 2 ($M = 874.68$, $SD = 289.41$) also predicted others to take a significantly larger amount of the resource than individuals in Study 1 ($M = 756.73$, $SD = 304.48$), $F(1, 314) = 12.047$, $p = .001$, did.

Discussion

This study investigated the influence of situational social orientation and situational perspective taking on individuals' behavior in a resource allocation task. The significant interaction showed that situational perspective taking leads to changes in individuals' behavior, and reactively increased these individuals' egotistical behavior in simultaneous interactions with social interdependence. In general, little more cooperation was shown in cooperative negotiations than in competitive negotiations, and little more egotism was displayed in the other-focused condition than in the self-focused condition.

The finding that situational perspective taking changes individuals' intentions and behavior was confirmed by the inconsistency between prediction and behavior in the resource allocation task. Individuals in the self-focused condition were consistent between fairness estimation, others' predicted behavior, and their own behavior. They increased not only their resource taking (i.e., own behavior) but also others' predicted competitiveness and others' predicted resource taking (i.e., others' predicted behavior) in competitive negotiations compared to cooperative negotiations. This finding indicates self-focused individuals to be unaffected by others and to solely focus on their own interest, which supports Hypothesis 2a.

In contrast, for individuals in the other-focused condition, no consistency between fairness estimation, others' predicted behavior, and their own behavior was found. In competitive negotiations, individuals' increased egotistical behavior is due to the framing of the negotiation. Interestingly, the effect of reactive egoism is even stronger in cooperative

negotiations – due to social uncertainty. Individuals increased their prediction of others' competitiveness and resource taking (i.e., others' predicted behavior) and reactively increased their own resource taking (i.e., own behavior) due to social uncertainty that induced reactive egoism. This finding indicates other-focused individuals to be affected by their prediction of others' behavior, which is in line with Hypothesis 2b.

Overall Discussion

In this research, we examined the effects of social orientation and perspective taking on individuals' behavior. In Study 1, we considered and measured the two constructs as dispositional characteristics. In Study 2, we investigated situational characteristics on individuals' behavior, and examined interaction effects of disposition and situation.

As Study 1 showed, prosocial individuals and perspective takers are much more likely to cooperate by taking less in the resource dilemma than proself individuals and non-perspective takers are. Furthermore, both dispositional constructs, social orientation and perspective taking, are significantly related to each other, as also demonstrated in Study 2. Although these constructs measure different psychological traits and originate from different fields of psychological research, there is evidence that the two constructs measure the motivation to consider other people's intentions.

In Study 2, the manipulated conditions of social orientation and perspective taking revealed a significant interaction demonstrating that individuals in the self-focused condition cooperated more in cooperative negotiations than in competitive negotiations. In contrast, individuals in the other-focused condition increased their egotistical behavior in competitive as well as in cooperative negotiations. In general, Study 2 showed self-focused individuals to behave consistently. They not only rated a higher amount of the resource as fair and took a higher amount of the resource in competitive negotiations than in cooperative negotiations but also predicted that others would be more competitive and would take more of the resource in competitive negotiations than in cooperative negotiations. In contrast, other-focused individuals first rated a low amount of the resource as fair for them to take – which indicates an intended cooperative behavior. Subsequently, however, when considering others, these individuals predicted others' to be competitive and predicted others' behavior to be self-

interested in competitive negotiations as well as in cooperative negotiations. Furthermore, assuming that others are egotistical led other-focused individuals to reactively increase their own egotistical behavior: taking a relatively high amount of the resource in competitive negotiations, and, surprisingly, even a higher absolute amount of the resource in cooperative negotiations.

These studies provide new insights into reactive egoism and social uncertainty on individuals' behavior. To investigate these effects, we considered perspective taking and social orientation as dispositional factors in Study 1 and as situational factors in Study 2. Previous research was not able to make a clear distinction between personality and situation and neglected potential interaction effects (see Epley et al., 2006). For example, both dispositional (i.e., trait) and situational (i.e., state) social orientation influenced individuals' behavior. In contrast, dispositional (i.e., trait) perspective taking influenced individuals' behavior in Study 1 but had no influence on individuals' behavior in Study 2 when we manipulated situational perspective taking (i.e., state) in the negotiation. Due to the procedure here, we are able to demonstrate that personality but also the framing of the negotiation situation by instruction as either cooperative or competitive influences individuals' behavior.

Limitations

At the same time, several limitations of these studies reduce the generalizability of the results. First, due to the study being conducted fully online, individuals in Study 1 participated without any real interaction with the other individuals and had no information about the other participants. This procedure resembles the assessment in the Triple-Dominance Measure of Social Values (Van Lange et al., 1997), in which participants have to act in consideration of other participants on whom they are dependent but whom they never will meet in the future. In Study 2, participants were able to influence others and to be

influenced by the presence of the other participants through their simultaneous assessment. However, there was no real interdependence and no real interaction in this study, either.

Second, differences between Study 1 and Study 2 were expected because of the differences in the undergraduate student sample and the general staff sample. Research on comparisons of interindividual interactions among high-power and low-power individuals revealed a difference in individuals' behavior, known as the discontinuity effect (Pinter et al., 2007; Wildschut, Insko, & Gaertner, 2002). Pinter et al. (2007) showed that individuals high in social power behave more competitively in negotiations than individuals low in social power. Therefore, the difference of social power between undergraduate students and members of the general staff of the Armed Forces could have caused the more competitive behavior and the increased resource takings of general staff members high in social power. Whereas in Study 2 the possession of social power in general staff members is given by their leadership experience, the possession of social power and leadership experience remained rather vague for undergraduate students in Study 1.

Third, to interpret and to generalize our results, distribution of social orientation and gender must be taken into account. For social orientation, prosocial individuals were overrepresented in Study 1, with fewer individualistic and competitive individuals regarding the expected distribution of social orientation by Au and Kwong (2004). In Study 2, the distribution of social orientation more closely matches the pattern expected by Au and Kwong. The overrepresentation of prosocial orientation in Study 1 might be explained by the undergraduate students' early stage of studying, mostly female psychology major students in early semesters and probably low-experienced with competitive interactions. In contrast, the fewer prosocial individuals in Study 2 could be explained by the proself setting in the Armed Forces which might have selected more individualistic and competitive individuals.

For gender, the undergraduate student sample in Study 1 consisted mostly of women, and in Study 2 the participants were mostly men. Considering the basic gender distribution in undergraduate courses for psychology major students, and in contrast to gender distribution in the Armed Forces, this difference in gender distribution was expected.

Future Research

This research focused on the influence of dispositional and situational factors in resource dilemmas on individuals' behavior. The effect of reactive egoism, however, might just play a significant role in short-term negotiations in which no future consequences result. Future research could examine this effect in a longer-term negotiation using various trials to simulate the negotiation and to assess the respective behavior over time. This procedure might also provide participants with opportunities to react to others' behavior. Simultaneous interaction in negotiations over time might additionally provide new insights on the effects of reactive egoism.

Another aspect to be considered in future studies is the structure of the social dilemma — the resource allocation task — that might influence reactive egoism. In the two studies presented here, we used a symmetrical negotiation scenario. In contrast, to use an asymmetrical dilemma in which negotiators have differing benefit structures and therefore divergent interests might be more appropriate and closer to real-life negotiations.

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CHAPTER 3

WHEN A PURELY EGOTISTICAL INDIVIDUAL DOES NOT TAKE THE MOST: REACTIVE EGOISM OVER TIME

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Abstract

Supposedly due to reactive egoism, individuals in social interactions who take the perspective of others into account subsequently behave more egotistically. This chapter investigates how reactive egoism alters in individuals' behavior over time and with negotiation expertise. In Study 1, undergraduate students ($N = 112$) in groups of four participated in a resource allocation task, taking the role of an association's representative. Situational perspective taking led individuals in the other-focused condition to significantly increase the amount of the resource taken compared to individuals in the self-focused condition. Due to the lack of negotiation expertise, individuals in the other-focused condition were more likely to decrease and deplete the resource. This resulted in individuals' smaller amount of the resource generated over time in the other-focused condition compared to the self-focused condition – irrespective of the presence or absence of fishing quota restrictions. As a replication, Study 2 confirmed the occurrence of reactive egoism in business leaders ($N = 60$) participating in groups of three. Individuals in the other-focused condition took a significantly larger amount of the resource than individuals in the self-focused condition did. Due to business leaders' negotiation expertise, reactive egoism vanished over time and resource taking equaled between the perspective taking conditions. Nonetheless, some individuals in the other-focused condition predicted others to be cooperative and subsequently showed mutual cooperation instead of reactive egoism.

Keywords: perspective taking, reactive egoism, social orientation, resource allocation

Diverging interests create the potential for conflicts in social interactions. For example, in February 2013, the Parliament of the European Union (EU) voted for an ambitious remodeling of the EU policy against overfishing in the European seas. To overcome the problem of overfishing in the last few decades, and to establish sustainable fishing, the Parliament ratified extensive reform with a vast majority of 79% (502 pros and 137 cons). Aside from prohibition of the “return” of injured or dead animals into the sea, the reform includes a limitation on the amount of fish taken. Until 2015, fish populations are not allowed to be harvested as long as the remaining population is at or under the minimum amount required to naturally reproduce itself. Therefore, drastic quotas will limit the harvesting of fish and might regulate the scarce resource at a sustainable level. Reduced harvests at a sustainable level would lower profits in the following years but increase overall profits over time. Not surprisingly, however, this reform is a potential source of conflict.

Resource Dilemmas

In a resource dilemma, a decision maker acts in his or her own self-interest, and these short-term self-interests are in conflict with the long-term collective interests. In our example of fishing, the allocation of fish represents a resource dilemma by inducing short-term self-interested parties to generate higher individual benefits and profit, whereas it is in the long-term collective interest to maintain the population of fish. Wade-Benzoni, Tenbrunsel, and Bazerman (1996) summarized characteristics and consequences of resource dilemmas, and more generally of social dilemmas, respectively. For an actor, a non-cooperative choice always makes more benefit than a cooperative choice, regardless of the behavior of others. For others, however, a non-cooperative choice always causes more losses than a cooperative choice. Moreover, the aggregate amount of others’ losses by a non-cooperative choice is greater than the benefit to the actor himself. Additionally, Van Lange, Liebrand, Messick, and

Wilke (1992) concluded that collective non-cooperation leads to a serious threat of depletion of future resources in resource dilemmas.

An additional aspect of resource dilemmas is the distribution of costs and benefits. Many real-life settings are characterized by an asymmetrical benefit and cost distribution. In the EU policy against overfishing in the European seas, the various representatives negotiating for resources have diverging interests. For example, Iceland and the Faroe Islands would like to increase their harvest taking. At the same time, Norway and the EU would like to restrict the competitive overfishing for Iceland and the Faroe Islands in order to maintain their current amount of harvest taken with fishing quotas (see Seidler, 2013).

The current research investigates whether the effect of reactive egoism – reactively increased egotistical behavior through taking others’ perspective (Epley, Caruso, & Bazerman, 2006) – occurs in resource dilemmas over time, and whether reactive egoism over time depends on individuals’ negotiation expertise. In the two studies of this chapter, fully online asymmetrical versions of a resource allocation task, derived from Wade-Benzoni et al. (1996), were used. The remodeling of the task allowed us to extend the current research on reactive egoism in interactively and simultaneously performed finitely repeated resource allocations over time, including a dynamic resource – which has not been done in previous research.

Empathy and Perspective Taking

A way to reduce conflict and to allow negotiations to proceed is to take others into consideration. This behavior of considering other individuals and understanding them is often seen as empathetic behavior, which is defined as “a vicarious emotional response to the emotion of another” (Oswald, 1996, p. 614). To understand others, their perspective must be taken into account in advance. The point of view that empathy is simply the most likely

response of perspective taking is also affirmed by Eisenberg's (1991) notion that "empathy [... stems] from perspective-taking activities" (p. 274). Galinsky, Maddux, Gilin, and While (2008) assert that although the two terms are often used interchangeably to describe an act of understanding other people in social situations, they actually describe distinct processes. Galinsky et al. (2008) define empathy as an "other-focused emotional response" (p. 378) in order to connect with others, and perspective taking is explained in terms of Davis's (1983) definition as the ability to anticipate "the behavior and reactions of others" (p. 115). In more detail, *perspective taking* represents "the ability to recognize and understand the thoughts of others" (Oswald, 1996, p. 614), and according to Epley et al. (2006), it includes actions such as "intuiting, as accurately as possible, another person's thoughts, feelings, attitudes, interests, or concerns in a particular situation" (p. 873).

In social interactions, perspective taking is likely to result in empathetic behavior. For example, perspective taking decreases egocentric judgments by considering others (Epley et al., 2006), increases the accuracy of the cognitive understanding of others (Gilin, Maddux, Carpenter, & Galinsky, 2013), and leads people to consider others more differentially than collectively – a phenomenon called "individuation" (Savitsky, Van Boven, Epley, & Wight, 2005). Moreover, in negotiations, cognitive perspective taking aids discovery of hidden agreements (Galinsky et al., 2008), minimizes the influence of a person's first offer (Galinsky & Mussweiler, 2001), and avoids impasses (Trötschel, Hüffmeier, Loschelder, Schwartz, & Gollwitzer, 2011).

At the same time, perspective taking is also likely to result in egotism, when a divergence of attitude or interests and behavior exists (Epley et al., 2006). Such as, for example, when a player raises the bet in a poker game, hoping for me to fold, but I see through his bluff. This ability to cognitively take my opponent's perspective helps me "to anticipate the behavior and reactions of others" (Davis, 1983, p. 115) and allows me to

interpret the situation correctly to my own advantage. Thus, taking the opponent's perspective is not automatically tantamount with being empathetic, prosocial, or philanthropic (Bazerman & Neale, 1983; Loschelder, Swaab, Trötschel, & Galinsky, 2014; Pierce, Kilduff, Galinsky, & Sivanathan, 2013; Trötschel et al., 2011). Rather, "there is valuable information to be gleaned from taking the perspective of the other negotiating party" (Bazerman & Neale, 1983, p. 317), which is intended to generate higher individual benefits for oneself. This effect of subsequently increased egotistical behavior after having taken others' perspective is called *reactive egoism* (Epley et al., 2006).

Prediction of Others

Coming back to the EU policy concerning overfishing, the individual countries' intentions and likely behavior in favor or against the EU policy might be discerned by taking their perspective. According to the "triangle" hypothesis by Kelley and Stahelski (1970), others are predicted to be either cooperative or competitive. The basic assumption is that competitors assume others to be competitive only, whereas cooperators predict that others will be either competitive or cooperative (see also Aksoy & Weesie, 2012, 2014). When two competitors negotiate, the negotiation leads to full competition, which consequently confirms both negotiators in their prediction of the other's orientation as competitive. When two cooperators negotiate, the negotiation is likely to be mutually cooperative. Again, both negotiators are confirmed in their prediction of the other's orientation as cooperative.

However, in negotiations between a competitor and a cooperator, the cooperator may recognize that the other negotiator is refusing to cooperate and will react by competition. This uncertainty as to whether the other negotiator will cooperate or compete is called *social uncertainty* (Wit & Wilke, 1998). Once a competitor is involved in the negotiation, mutual cooperation is unlikely, since the cooperator may become competitive to avoid costs and

losses. Consequently, depending on *personality characteristics* of negotiators, the negotiation therefore is more likely to be competitive than (mutually) cooperative.

In negotiations where it is difficult to accurately predict others, prediction about cooperation and competition is also confounded by *situational characteristics* of the negotiation (Messick, Allison, & Samuelson, 1988). The negotiation situation itself can be induced to be either cooperative or competitive, according to the structure of the task (Weber, Kopelman, & Messick, 2004). As a consequence, negotiations might turn competitive due to the (perceived) competitive personality characteristics of others or due to the (perceived) competitive situational characteristics of the negotiation (Bucher, Jonas, Naeff, & Annen, 2014). Moreover, Bucher et al. (2014) demonstrated that even cooperators might display reactively increased egotistical behavior (i.e., show reactive egoism) due to others' predicted self-interested behavior in negotiations with social uncertainty.

Social Orientation

In negotiations on resource allocations, individuals value their outcome not only absolutely but also relatively to those of the other individuals involved (Van Lange, 1999). The social preference when allocating resources between oneself and others is called social (value) orientation (McClintock, 1978). The typology by De Dreu, Weingart, and Kwon (2000) characterizes different types of social orientation: a prosocial orientation is an individual's preference for maximizing the joint outcome and a proself orientation is an individual's preference for maximizing his or her own individual outcome. For the *prosocial* orientation, the aim is reached by *cooperation*, whereas for the *proself* orientation, the aim is reached by *individualism* or *competition* (Van Lange, 1999).

The review by De Dreu et al. (2000) on operationalizations of social orientation shows that the social orientation may derive from the social preference of the individuals involved,

i.e., their *personality*, or may be evoked by instruction or incentive structure of the negotiation itself, i.e., the *situation*. In Study 1, we manipulated situational social orientation in the negotiation to be either cooperative (along the prosocial orientation) or competitive (along the proself orientation) in order to examine effects of competition over time.

The Current Research

In this research, we investigate individuals' behavior in a resource dilemma over time. We expect reactive egoism and social uncertainty to occur by the manipulation of situational perspective taking (other-focused vs. self-focused). For situational perspective taking, we predict in both studies that individuals in the other-focused condition will reactively increase their egotistical behavior and will take a larger amount of the resource than individuals in the self-focused condition will (Hypothesis 1). The effect of reactive egoism and social uncertainty is supposed to occur in the samples of both studies since individuals' decisions in negotiations "will be systematically influenced by decision characteristics" (Neale & Northcraft, 1986, p. 316), as the framing of situational perspective taking in our studies.

Negotiation expertise and time. Over time, however, the hypothesis described above needs modifications because of differences in the undergraduate student sample in Study 1 and the business leader sample in Study 2. Neale and Northcraft (1986) noted that "student subjects are not negotiating experts" (p. 308) and are neither experienced with resource allocations nor with negotiation processes, whereas leadership-experienced individuals have "experience with the decision-making process [but also] familiarity with the decision content" (p. 305).

Undergraduate students are supposed to begin negotiations by using a distributive approach (Bazerman & Neale, 1983; Neale & Northcraft, 1986). A distributive approach considers negotiations as win-lose situations. In these win-lose situations, individuals' focus

is likely to remain on other negotiators. At the same time, as long as individuals' focus is on other negotiators the resource might decrease or even deplete. As a consequence of ignoring the decrease of the resource, smaller amounts of the resource are accessible to harvest in the following trials. Thus, we predict that undergraduate students in the other-focused condition will generate smaller amounts of the resource over time than undergraduate students in the self-focused condition will (Hypothesis 2a).

Individuals in a leadership position, however, are supposed to have more experience in resource allocations and negotiation processes (Neale & Northcraft, 1986). Despite of no common negotiation experience among business leaders, which was taken into account in the recruitment, these individuals are predicted to adapt an integrative approach (Bazerman, Magliozzi, & Neale, 1985; Neale & Northcraft, 1986). An integrative approach does not consider negotiations as win-lose situations but as situations where options ought to correspond to the needs of all individuals involved (Bazerman et al., 1985) and the increase of joint outcomes is predominant. In this case, the individuals' perspective is likely to be on the resource allocation. Taking business leaders' negotiation expertise into account, we expect them to less drastically decrease and deplete the resource in the other-focused condition and predict business leaders to generate about the same resource takings over time. Thus, we predict that business leaders in the other-focused condition and business leaders in the self-focused condition will generate equal amounts of the resource over time (Hypothesis 2b).

Competition and time. Since cooperation is also beneficial in competitive negotiation to attain the highest possible individual outcome over time, we do not expect differences in participants' behavior between the cooperative and competitive negotiation condition. Moreover, in the two studies, the resource's depletion in negotiations is prevented through fishing quota restrictions. Therefore, equal resource taking in the cooperative and competitive negotiation condition will be attained over time. However, without any fishing quota

restrictions, competition might lead to a drastic decrease or depletion of the resource and might result in a smaller cumulative amount of the resource generated over time.

Study 1

In this experiment, we manipulated situational perspective taking (other-focused vs. self-focused) in each trial of the resource allocation task by asking participants either to consider others' likely behavior first and then to decide for themselves, or vice versa. Situational social orientation (cooperative vs. competitive) was manipulated by instructing participants to either maximize the joint outcome or the individual outcome in the resource allocation task. To control for individual preferences in perspective taking and social orientation, we measured both dispositions for each participant.

Method

Participants. In total, 112 (women: $n = 75$, 67.0%; men: $n = 37$, 33.0%) undergraduate students at the University of Zurich with an average age of $M = 23.0$ years ($SD = 5.2$ years) participated in the experiment in 28 groups of four.

Design. We used a 2 (situational perspective taking: other-focused vs. self-focused) x 2 (situational social orientation: cooperative vs. competitive) x 8 (trials) mixed-design over time, with the amount of the resource taken as the dependent variable. In this design, situational perspective taking and situational social orientation represented between-subjects variables, and time was the within-subjects variable.

Procedure. Upon arrival in groups of four, the undergraduate students were invited into the laboratory and randomly assigned to the individual cubicles equipped with a computer station. The experimenter then started the online experiment from another computer station operating as the server. All the four participants in the group were assigned to the

identical experimental condition in the resource allocation task. At the end of the experiment, participants were thanked and debriefed on the intent of the study.

Resource allocation task. In the first part of the experiment, participants completed a resource allocation task derived from a real-life conflict over fish harvesting that followed Wade-Benzoni et al.'s (1996) task structure. In the dilemma, four different fishing associations negotiated on resource allocation, with each participant acting as a representative of one of the fishing associations. To reach a higher level of reality, an asymmetrical version of the dilemma was modeled. Fishing associations varied in their individual profit formulas to induce diverging interests in resource taking. Participants acting as representatives first received information about the resource allocation task and then specific information about their own association as well as information on the three other associations. Afterwards, they were briefed to decide the association's next year's harvest level (measured in metric tons), at some point between the association's minimum, the level the association needs to achieve to stay in the business (20%), and the maximum harvest capacity (100%). All together, half of the maximum harvest capacity was the sustainable level. As in the original task, participants were instructed to maximize either joint or individual profit, depending on the condition, and at the same time to avoid depletion of the resource.

To simulate the resource allocation task interactively as well as over a period of time, several modifications were made. To allow participants to interact simultaneously, the scenario was fully computed online using the software z-Tree (Fischbacher, 2007), through which all computer stations were interconnected with a server computer. This server computer activated the program and was operated by the experimenter. As the experimenter started the program, the other computers were activated to allow participants to start the experiment. All instructions were provided online by the program. In order to coordinate the following simultaneous interaction and to avoid prolonged waiting times, we integrated a time limiter to

indicate the duration of the respective stage; however, stages were still present after the countdown.

Additionally, the scenario was modeled to be played for ten consecutive years. One trial represented one year and was completed by each participant determining the next year's harvest level for their respective association and indicating others' predicted social orientation and resource taking – or vice versa, depending on the condition. After all participants had made their decisions, the amount of the resource taken by each individual association and the overall amount of the resource taken by all associations was then displayed to all participants. Additionally, the current year's individual profit and the overall profit of the individual association were provided separately for each association.

To simulate ten consecutive years, the resource needed to be dynamic or, in other words, reproductive. Therefore, we introduced a reproduction factor of 0.5 a year; half of the fish population of the current year would be added to the remaining fish population, thus calculating the next year's population.⁵ This allowed for a sustainable consumption of the resource over time if the maximum harvest was half of the total population. For guidance, participants were informed in each trial not only about how much had been harvested by all associations but also whether the resource had increased or decreased and at what level the resource was expected to be the next year. Nevertheless, there was still the possibility of rapid resource depletion as well as the possibility of an unnaturally large growth of the population. We therefore limited the range of the possible population of fish to a minimum of 1,500 metric tons and a maximum of 10,000 metric tons. The minimum furthermore allowed the

⁵ For example, an actual year's resource pool of 2,500 metric tons generated 1,250 metric tons for the next year's resource pool. The reproduced amount of fish was added to the actual year's remaining amount of fish.

associations to increase the fish population over time – by harvesting only minimum amounts of fish in the actual year.

Due to not having realized the dilemma structure in the resource allocation task, two participants were excluded from the analysis of their respective groups: One participant only indicated maximum values for all the dependent variables and indicated feeling not belonging to and not identifying with other group members at the same time. The other participant only indicated minimum values for all the dependent variables and indicated feeling not belonging to and not identifying with the own outcome. The final sample consisted of 110 participants in 28 groups.

Conditions of situational perspective taking and situational social orientation. We manipulated social orientation and perspective taking as situational factors. Perspective taking was instructed in each trial by asking participants either to consider others' likely behavior first and then to decide for themselves (other-focused), or vice versa (self-focused). Social orientation (cooperative vs. competitive) was manipulated by instructing participants to either maximize the joint outcome (cooperative) or the individual outcome (competitive) over time in the resource allocation task.

Dependent variables. *Resource taking* indicated participants' amount of the resource that they were taking for their own association for the next year. *Resource taking over time* was calculated as the cumulative amounts of the resource taken for their own association. *Others' predicted resource taking* was measured by the prediction of other participants' resource taking. All the three dependent variables were measured in metric tons. Participants indicated *others' predicted social orientation* on a 6-point scale (0 = *cooperative*, 5 = *competitive*).

Manipulation check. To check our manipulation of cooperation and competition, participants responded to two items on a 6-point scale. The first item assessed the perceived

structure of the task (0 = *individual task*, 5 = *collective task*), and the second item assessed the perceived goal of the task (0 = *best solution for own association*, 5 = *best solution for all associations*).

Control variables. To control for any influences of dispositional perspective taking and dispositional social orientation, we assessed both as control variables. Dispositional perspective taking was assessed by the *perspective-taking* subscale of the Interpersonal Reactivity Index (Davis, 1980). Dispositional social orientation was measured using the Triple-Dominance Measure of Social Values (Van Lange, Otten, De Bruin, & Joireman, 1997).

Results

Manipulation check. After completing the task and the questionnaire, participants were asked about the manipulation of cooperation and competition. Results indicated that the manipulation check was successful. Participants in the cooperative negotiation condition ($M = 3.36$, $SD = 1.39$) indicated that the task had a more collective structure, and participants in the competitive negotiation condition ($M = 2.24$, $SD = 1.63$) reported the task as having a more individual structure, $t(108) = 3.896$, $p = .000$. Moreover, participants' goal in the cooperative negotiation condition ($M = 2.84$, $SD = 1.41$) was more likely to find the best solution for all associations, whereas participants' goal in the competitive negotiation condition ($M = 2.02$, $SD = 1.44$) was more likely to reach the best solution for their own association, $t(110) = 3.003$, $p = .003$.

Preliminary analysis. Neither dispositional perspective taking nor dispositional social orientation interacted with situational perspective taking or situational social orientation. Furthermore, no main effects were shown for dispositional perspective taking or dispositional social orientation. Therefore, dispositional factors were not further considered in the analysis.

Effects in the beginning. In the first trial, individuals' resource taking statistically also depended on the group, since participants realized to process the resource allocation task within the group of four. Therefore, the following analysis was conducted using a multilevel linear model (MLM; situational perspective taking and situational social orientation as between-subjects variables; group [level 1] as within-subjects variable).

Resource taking. We calculated a 2 (situational perspective taking: other-focused vs. self-focused) x 2 (situational social orientation: cooperative vs. competitive) MLM, with the amount of the resource taken (in metric tons) as the dependent variable. The MLM revealed a significant main effect of situational perspective taking and a non-significant main effect of situational social orientation. For situational perspective taking, participants in the other-focused condition ($M = 964.10$, $SD = 217.06$) took a larger amount of the resource than participants in the self-focused condition ($M = 865.60$, $SD = 199.63$), $F(1, 28.200) = 6.155$, $p = .019$, *sig.* This finding supports Hypothesis 1. For situational social orientation, participants in the cooperative negotiation condition ($M = 904.92$, $SD = 220.46$) took a non-significantly smaller amount of the resource than participants in the competitive negotiation condition ($M = 924.78$, $SD = 207.61$), $F(1, 28.200) = 0.208$, $p = .625$, *sig.* The interaction was not significant, $F(1, 28.200) = 0.000$, $p = .983$; see Figure 3.1.

Consistency between predictions. When comparing others' predicted social orientation and others' predicted resource taking, the overall relationship between these two predictions was significant ($r = .19$, $p = .043$). However, for situational perspective taking, different conclusions resulted from the self-focused condition and the other-focused condition. Participants in the self-focused condition remained consistent in their prediction of others' social orientation ($M = 2.76$, $SD = 0.77$) and others' resource taking ($M = 820.81$, $SD = 199.86$; $r = .40$, $p = .003$) in competitive and cooperative negotiations. In contrast, for participants in the other-focused condition, no consistency resulted in the prediction of others'

social orientation ($M = 2.81$, $SD = 0.73$) and others' resource taking ($M = 870.55$, $SD = 222.32$; $r = .00$, $p = .988$), likely due to social uncertainty.

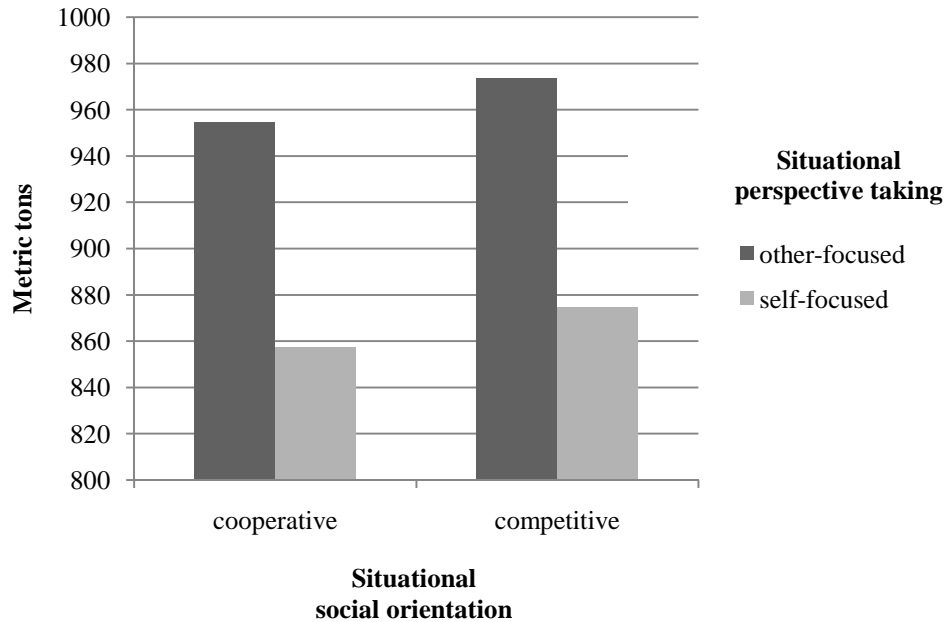


Figure 3.1. Amount of the resource taken in the first trial as a function of situational perspective taking and situational social orientation.

Effects over time. Individuals' resource taking over time depended on the group and on time. Therefore, we calculated the same multilevel linear model (MLM) over time using a latent growth model (LGM; situational perspective taking and situational social orientation as between-subjects variables; time [level 1] and group [level 2] as within-subjects variables), with the cumulative amounts of the resource taken from the first trial to the eighth trial. Since in finitely repeated resource allocations the last trials are confounded due to individuals who rationally turn non-cooperative and deplete the resource in the end of the simulation in order to increase profit without any further consequences (Wiens, 2013), the ninth and the tenth trial were not considered in the following analysis.

Resource taking. We calculated a 2 (situational perspective taking: other-focused vs. self-focused) x 2 (situational social orientation: cooperative vs. competitive) LGM, with the cumulative amounts of the resource taken (in metric tons) as the dependent variable. The

LGM revealed a significant main effect of situational perspective taking and a non-significant main effect of situational social orientation. Over time, participants in the other-focused condition generated smaller amounts of the resource than participants in the self-focused condition, $F(1, 93.500) = 8.341, p = .005$, did. This finding supports Hypothesis 2a. No significant difference in generated cumulative amounts of the resource over time resulted between participants in the cooperative negotiation condition and participants in the competitive negotiation condition, $F(1, 93.500) = 0.430, p = .514$. The interaction was non-significant, $F(1, 93.500) = 0.281, p = .597$.

Additional findings: Depletion of the resource. Since we introduced a reproduction factor to create a dynamic resource for maintaining a minimum amount of the resource in order to allow participants to negotiate during the entire procedure, depletion was impossible. However, an early depletion of the resource would have resulted in an early end of the simulated resource allocation task. Therefore, we considered depletion as time until the resource would have been depleted and tested effects on trials played at group level and the amount of the resource taken at the individual level.

At the group level, we first calculated a 2 (situational perspective taking: other-focused vs. self-focused) x 2 (situational social orientation: cooperative vs. competitive) ANOVA, with the amount of trials played until the trial in which the resource would have been depleted or all the eight trials if the resource would not have been depleted yet. A significant effect resulted for groups in the other-focused condition in competitive negotiations ($M = 4.29, SD = 2.63$), demonstrating these groups would have significantly depleted the resource in earlier trials than other groups ($M = 6.52, SD = 2.14$), $F(1, 26) = 2.270, p = .032$, did.

At the individual level, we calculated a 2 (situational perspective taking: other-focused vs. self-focused) x 2 (situational social orientation: cooperative vs. competitive) MLM, with the cumulative amount of the resource taken (in metric tons) until the end of the eighth trial if

the resource would not have been depleted yet or until the trial in which the resource would have been depleted as the dependent variable. The MLM revealed both main effects of situational perspective taking and situational social orientation to be significant. For situational perspective taking, participants in the other-focused condition ($M = 2,696.99$, $SD = 994.61$) generated a significantly lower cumulative amount of the resource than participants in the self-focused condition ($M = 3,244.08$, $SD = 985.94$), $F(1, 112) = 9.616$, $p = .002$, *did*. This finding again confirms Hypothesis 2a. For situational social orientation, participants in the cooperative negotiation condition ($M = 3,221.62$, $SD = 849.43$) generated a significantly larger cumulative amount of the resource than participants in the competitive negotiation condition ($M = 2,719.45$, $SD = 1,124.18$), $F(1, 112) = 8.102$, $p = .005$, *did*.

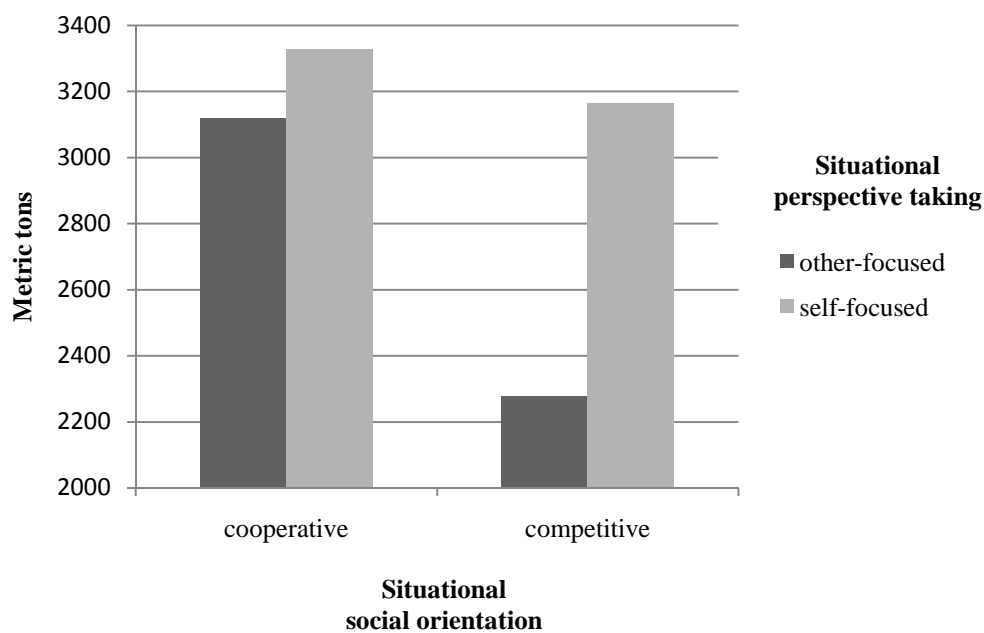


Figure 3.2. Cumulative amount of the resource taken as a function of situational perspective taking and situational social orientation.

As Figure 3.2 shows, participants' earlier depletion of the resource in the other-focused condition in competitive negotiations resulted in the least generated cumulative amount of the resource ($M = 2,276.68$, $SD = 925.41$). This finding demonstrates reactive

egoism to cause increased self-interested behavior over time if restrictions are absent. The interaction was marginally significant, $F(1, 112) = 3.681, p = .058$, that is, the effect tended to be stronger in the competitive negotiation condition.

Discussion

This study provides support for the occurrence of reactive egoism, the increased reactive egotistical behavior due to the predicted competitiveness of others. Situational perspective taking showed that participants in the other-focused condition cooperated less by taking a significantly larger amount of the resource in the first trial than participants in the self-focused condition did. Even though considering others is supposed to be empathetic behavior, own short-term benefits had been prioritized by situational perspective taking. Over time, participants in the other-focused condition ignored the decrease of the resource but focused on others' competitive behavior and ended generating less of the resource. Apparently, undergraduate students failed to consider the drastic decrease of the resource. Instead, they kept their focus on others which resulted in ongoing reactive egoism.

Situational social orientation had no influence, when participants in the beginning harvested a little more of the resource in competitive negotiations than in cooperative negotiations. Due to the need to initially cooperate in order to reach the highest possible individual outcome, the effect of situational social orientation was non-significant. Over time, no difference between competition and cooperation was found since restrictions avoided the resource's depletion. However, without restrictions the resource would have been significantly earlier depleted in competitive negotiations, which indicates the need for restrictions in resource allocations in order to avoid the ongoing competition due to biased perspective taking.

In Study 2 below, we wanted to replicate the findings of situational perspective taking, since individuals' behavior in resource allocation "will be systematically influenced by decision characteristics" (Neale & Northcraft, 1986, p. 316). However, in the present study, undergraduate students participated who were neither experienced with resource allocations nor with negotiation processes. In the following study, we wanted to investigate experienced business leaders' behavior over time, and whether reactive egoism results from competitive negotiations or whether cooperation is possible to some extent.

Study 2

Study 2 replicated Study 1 in many ways and included the simulated resource allocation task over time concerning situational perspective taking (other-focused vs. self-focused). However, in contrast to the undergraduate students sample in Study 1, here we examined individuals in leadership positions. Since negotiations on resource allocation are primarily performed by management executives, the focus of the present study was to replicate the effect of reactive egoism as well as to explore individuals' behavior with extensive professional negotiation experience over time. According to Neale and Northcraft (1986), individuals in a leader position have more experience in the allocation of resources and negotiation processes. Due to this negotiation expertise, leaders should be able to focus on the long-term resource allocation and to counterbalance the initial effect of situational perspective taking, i.e., reactive egoism, over time. As a consequence, reactive egoism is supposed to vanish and leaders' behavior to be similar over time, irrespective of the perspective taking condition. In order to test our predictions, leaders in different organizations were recruited to simultaneously interact in the resource allocation task.

Due to a smaller sample size of available business leaders, situational social orientation was kept competitive, by instructing participants to maximize their individual outcomes. As before, we manipulated situational perspective taking by telling participants who must be considered first in the allocation task before they decided on resource taking in each trial: In the other-focused condition, the leaders first predicted others before deciding, and in the self-focused condition, they first decided and then predicted others. To control for individual preferences, dispositional perspective taking and dispositional social orientation, we assessed both for each participant.

Method

Participants. In total, 60 (women: $n = 17$, 28.3%; men: $n = 43$, 71.7%) business leaders with an average age of 44.1 years ($SD = 10.7$ years) participated in the experiment in 20 groups of three. Business leaders had been defined to either require budget or staff responsibility. The average leadership experience was 10.7 years, with a range from 1 year to 45 years. Leaders were recruited from various organizations located in Zurich (Switzerland), Frankfurt am Main (Germany), and South Tyrol (Italy), mostly in aviation, consulting, finance, and health. Furthermore, the recruitment endeavored that business leaders had no common work experience.

Design. In this study, we used a 2 (situational perspective taking: other-focused vs. self-focused) \times 10 (trials) mixed-design in competitive negotiations over time, with the amount of the resource taken as the dependent variable. Here, situational perspective taking was the between-subjects variable and time was the within-subjects variable.

Procedure. The procedure in Study 2 was the same as in Study 1. In groups of three, leaders were randomly assigned to individual laptop computers. Each laptop computer had an online connection to the server laptop computer operated by the experimenter. Again, the identical experimental condition was chosen for all three participants in the group. At last, participants were thanked and debriefed on the intent of the study.

Resource allocation task. The resource allocation task was the same as in Study 1. In contrast, however, in this study we simulated the experiment as competitive negotiations only and minimized the group size in the negotiation. To maintain the asymmetrical structure of the resource dilemma, three different fishing associations⁶ had to negotiate on resource

⁶ In contrast to Study 1, we remodeled two associations into one association as representing the average association.

allocation. Again, each participant acted as a representative of one of the fishing associations. To adapt the negotiation to three fishing associations, instead of four associations as in Study 1, their maximum capacities were adjusted and the sustainable level was half of the present harvest. Participants were instructed to maximize their profit and at the same time avoid depletion of the resource.

For the scenario, we again used the software z-Tree (Fischbacher, 2007) fully online to allow participants to simultaneously interact in the simulation by interconnecting all laptop computers. Since in Study 1 the last couple of trials were confounded by participants' turn to non-cooperation in the end of the simulation (Wiens, 2013), we increased the number of trials to a total of 13; but omitted the last 3 trials from analysis. Again, to simulate the 13 consecutive years, we used a reproduction factor of 0.5 a year to allow sustainable consumption of the resource over time. The limits of the resource were adjusted to 1,150 metric tons as the minimum and 7,500 tons as the maximum. The minimum harvest amounts allowed the associations to increase the future fish population over time. No further changes in the programming were made.

Due to one participant responding to the initial scales too slowly, the screens of the other two participants turned passive, indicating that they should wait for the other participant. This reset the simulation. As a consequence, the subsequent simulation in this group of three participants was played in the self-focused condition without any prediction of others. In total, 6 participants were excluded from the original sample consisting of 60 participants: One group of three participants could not be included in the following analysis, because two participants acted for another association by mistake. An additional three participants of the remaining 19 groups were excluded from the analysis of their respective group due to not having realized the dilemma structure in the resource allocation task, as they only indicated maximum values for all the dependent variables and at the same time indicated feeling not

belonging to and not identifying with other group members. The final sample consisted of 54 participants in 19 groups.

Dependent variables. We used the same dependent variables as in Study 1. *Resource taking*, *resource taking over time*, and *others' predicted resource taking* were measured in metric tons, and *others' predicted social orientation* was measured using a 6-point scale (0 = *cooperative*, 5 = *competitive*).

Control variables. As in Study 1, we measured both dispositional perspective taking and dispositional social orientation as control variables. Dispositional perspective taking was assessed by the *perspective-taking* subscale of the Interpersonal Reactivity Index (Davis, 1980). Again, we used the Triple-Dominance Measure of Social Values to assess dispositional social orientation (Van Lange et al., 1997). Further, two items concerning participants' individual and collective identity, "identification with other associations" and "belonging to other associations", were measured on a 6-point scale (0 = *strongly disagree*, 5 = *strongly agree*).

Results

Preliminary analysis. Neither dispositional perspective taking nor dispositional social orientation interacted with situational perspective taking, and neither of those showed main effects. Therefore, in the analysis dispositional factors were not considered.

Preliminary analysis at group level. Initial data analysis between conditions revealed two groups in the other-focused condition as outliers concerning their aggregated resource taking ($> 2 SD$). These two groups were removed from the following analysis. Findings including these two groups are presented in the last section on mutual cooperation.

Effects in the beginning. As in Study 1, individuals' resource taking in the first trial statistically depended on the group. Therefore, the following analysis was conducted using a

multilevel linear model (MLM; situational perspective taking as between-subjects variable; group [level 1] as within-subjects variable).

Resource taking. We calculated a (situational perspective taking: other-focused vs. self-focused) MLM, with the amount of the resource taken (in metric tons) as the dependent variable. The MLM revealed a significant main effect of situational perspective taking. In the other-focused condition, participants ($M = 1,008.95$, $SD = 186.44$) took a significantly larger amount of the resource than participants in the self-focused condition ($M = 868.65$, $SD = 281.11$), $F(1, 48) = 4.332$, $p = .043$, *did.*⁷ This finding supports Hypothesis 1.

Resource taking and identity. Participants' identity significantly influenced the effect of reactive egoism. We tested two (situational perspective taking: other-focused vs. self-focused) MLMs, with "identification with other associations" and with "belonging to other associations" as additional continuous independent variables in separate MLMs. Both MLMs showed a significant interaction of situational perspective taking and identity; for "identification with other associations", $F(5, 48) = 3.704$, $p = .006$; and for "belonging to other associations", $F(4, 48) = 3.021$, $p = .027$. Participants in the other-focused condition reactively increased their egotistical behavior by taking a larger amount of the resource when they indicated not identifying with and not belonging to other associations.

⁷ Age had a significant influence on individuals' behavior, $F(25, 48) = 5.708$, $p = .000$, and others' predicted social orientation, $F(24, 45) = 5.123$, $p = .000$. Younger participants competed more by taking a larger amount of the resource and also predicted others to be more competitive than older participants did. Furthermore, age was correlated with leadership experience ($r = .64$, $p = .000$). Thus, the same influence on individuals' behavior, $F(20, 48) = 1.790$, $p = .050$, and others' predicted social orientation, $F(20, 45) = 2.885$, $p = .002$, was observed for leadership experience. Participants with lesser leadership experience competed more by taking a larger amount of the resource and also predicted others to be more competitive than leadership-experienced participants did.

Consistency between predictions. As in Study 1, we compared others' predicted social orientation and others' predicted resource taking. The overall relationship remained the same as in Study 1, but was non-significant, presumably due to the smaller sample size ($r = .22$, $p = .149$). Nevertheless, the same conclusion for situational perspective taking resulted in this study. In the self-focused condition, participants remained consistent between their prediction of others' social orientation ($M = 3.10$, $SD = 0.93$) and others' resource taking ($M = 1915.31$, $SD = 338.57$; $r = .51$, $p = .018$). In contrast, in the other-focused condition participants again predicted others' social orientation ($M = 3.10$, $SD = 0.91$) and others' resource taking ($M = 1946.82$, $SD = 399.36$; $r = .00$, $p = 1.000$) inconsistently – due to social uncertainty.

Effects over time. As in Study 1, individuals' resource taking over time statistically depended on the group and on time. Therefore, we used the same multilevel linear model (MLM) over time in a latent growth model (LGM; situational perspective taking as between-subjects variable; time [level 1] and group [level 2] as within-subjects variables), with the cumulative amounts of the resource taken from the first trial to the tenth trial. Since in Study 1 the latter trials were confounded by some participants depleting the resource by the end of the simulation in order to increase their own profit without any further consequences (Wiens, 2013), in the following analysis the eleventh, the twelfth, and the thirteenth trial were not considered.

Resource taking. We calculated a (situational perspective taking: other-focused vs. self-focused) LGM, with the cumulative amounts of the resource taken (in metric tons) as the dependent variable. The LGM revealed no significant main effect of situational perspective taking. Over time, participants in the self-focused condition did not differ in the amount of resource taken from participants' resource taking in the other-focused condition, $F(1, 1013.737) = 0.009$, $p = .923$. This finding supports Hypothesis 2b.

Additional findings: Mutual cooperation. The two groups in the other-focused condition, excluded due to their strongly deviating scores in aggregated amount of the resource taken, showed cooperation instead of reactive egoism. We tested the difference between reactive egoism and mutual cooperation with the others' predicted social orientation as the dependent variable. Indeed, participants in groups showing mutual cooperation (MC; $M_{MC} = 2.17$, $SD_{MC} = 0.41$) predicted others' behavior as significantly more cooperative than participants in groups showing reactive egoism (RE; $M_{RE} = 3.10$, $SD_{RE} = 0.91$), $F(1, 30) = 6.385$, $p = .017$, did.

Resource taking. We calculated a (situational other-focused condition: predicted cooperative vs. predicted competitive) MLM, with the amount of the resource taken as the dependent variable. In the first trial, participants in groups showing reactive egoism did not differ in the amount of the resource taken from participants in groups showing mutual cooperation ($M_{RE} = 1,008.95$, $SD_{RE} = 186.44$ vs. $M_{MC} = 872.51$, $SD_{MC} = 324.53$), $F(1, 10) = 1.853$, $p = .203$.

Resource taking and identity. Moreover, participants' identity influenced the effect of reactive egoism and mutual cooperation. We calculated two (situational other-focused condition: predicted cooperative vs. predicted competitive) MLMs, with "identification with other associations" and with "belonging to other associations" as additional continuous independent variables in separate MLMs. Both MLMs showed a significant interaction between the other-focused condition and identity; for "identification with other associations", $F(2, 30) = 6.088$, $p = .006$; and for "belonging to other associations", $F(3, 14.345) = 5.554$, $p = .010$. Groups showing reactive egoism and indicating not identifying with and not belonging to other associations reactively increased their egotistical behavior the most by taking a larger amount of the resource.

Resource taking over time. Finally, we calculated a (situational other-focused condition: predicted cooperative vs. predicted competitive) LGM, with the cumulative amounts of the resource taken (in metric tons) as the dependent variable. The LGM revealed a significant main effect over time. Participants in groups showing mutual cooperation generated significantly larger amounts of the resource than participants in groups showing reactive egoism, $F(1, 53.130) = 19.116, p = .000$. This finding supports the notion that mutual cooperation will attain higher overall outcomes over time (see Figure 3.3).

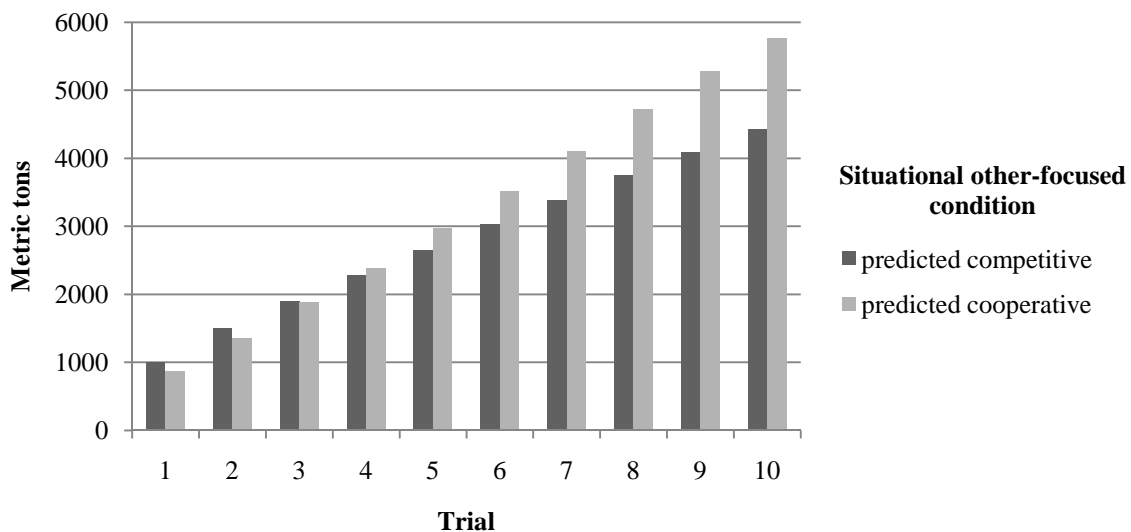


Figure 3.3. Cumulative amounts of the resource taken over time (Study 2) as a function of the situational other-focused condition. Eight groups (predicted competitive) showed reactive egoism ($n = 24$), and two groups (predicted cooperative) showed mutual cooperation ($n = 6$).⁸

Discussion

⁸ Significant differences in Trial 8 ($M_{RE} = 3,747.91, SD_{RE} = 617.26$ vs. $M_{MC} = 4,718.94, SD_{MC} = 1,829.55$), $F(1, 30) = 5.325, p = .028$; in Trial 9 ($M_{RE} = 4,088.89, SD_{RE} = 699.94$ vs. $M_{MC} = 5,283.94, SD_{MC} = 2,095.02$), $F(1, 30) = 6.373, p = .017$; and in Trial 10: $M_{RE} = 4,427.31, SD_{RE} = 695.84$ vs. $M_{MC} = 5,766.81, SD_{MC} = 2,319.52$), $F(1, 30) = 6.793, p = .014$.

Study 2 replicates the major finding of Study 1. Reactive egoism occurred in the other-focused condition, when others were predicted to act competitively in the resource dilemma. Participants who were self-focused on their individual interests took a significantly lower amount of the resource than participants in the other-focused condition did. This finding provides evidence that considering others' perspective causes increased egotistical behavior in individuals, i.e., reactive egoism occurred. Furthermore, identity moderated the effect of reactive egoism. Participants who considered others' perspective but felt unrelated to others increased their amount of the resource taken, i.e., even more reactive egoism occurred. However, in contrast to Study 1, participants in the other-focused condition avoided severe decrease of the resource and finished with rather equal resource taking over time as participants in the self-focused condition.

At the same time, some groups in the other-focused condition managed to finish the simulation with the largest amount of the resource taken. These groups avoided reactive egoism by predicting others' behavior as significantly more cooperative than other groups within the other-focused condition, and subsequently showed mutual cooperation. This finding is in line with the triangle hypothesis (Kelley & Stahelski, 1970): Prosocial individuals who take others into account might either predict others to be competitive (i.e., followed by reactive egoism), or cooperative (i.e., followed by mutual cooperation). As a consequence, by predicting others to be cooperative, mutual cooperation led these groups to end the simulation with the highest joint and individual outcomes over time.

Interestingly, due to the more diverse sample in Study 2, demographic and job-related variables influenced the strength of the effect of reactive egoism and cooperation. Cooperation is affected by individuals' age and leadership experience (see Footnote 7). The younger individuals are and the lesser individuals' leadership experience is, the higher the

probability of reactive egoism, or, in other words, the older the individuals and the higher leadership experience in individuals, the higher the probability for mutual cooperation.

Overall Discussion

Fair and accurate allocation of goods is an essential concern in our daily lives, especially in the face of ever-dwindling natural resources combined with increased demand and consumption of them. Nevertheless, only a minority of representatives of nations, institutions, and organizations are responsible for and entitled to negotiate on the allocation of these shared resources, whereas ordinary people usually are not. On the other hand, decisions on resource allocation concern us all, due to our dependence on those resources and our interest in their consumption and/or sustainability.

In the current studies, we simulated a resource allocation task in which participants acted as representatives of various associations allocating resources over multiple trials. The two studies demonstrated that situational perspective taking led to increased egotistical behavior in individuals at the beginning of the resource allocation. Over time, other-focused undergraduate students in Study 1 failed to realize the resource's decrease and ended up with smaller amounts of resource taken than self-focused undergraduate students. In contrast, the business leaders in Study 2 managed to equal resource taking between the perspective taking conditions over time.

Generally, however, groups failed to increase joint as well as individual outcomes, which would have been possible if they had allowed the resource to grow initially, thus allowing full capacity harvest over several trials. Except of a few rare occasions where groups managed to allow the level of the resource to increase from one trial to the next, all groups overharvested at the very beginning. Although the instruction was to take half of the resource as the maximum, all groups reduced the amount of the resource excessively at the beginning; 50% was the sustainable level, whereas 74% of the resource were taken in Study 1 and 75% of the resource were taken in Study 2 in Trial 1. To avoid complete depletion, the task

additionally provided a good opportunity to increase the resource through conservative resource taking for a short period of time. However, none of the groups managed to substantially increase the resource levels.

Limitations

Although the attempt in Study 1 and Study 2 was to conduct a realistic negotiation scenario to be played interactively and simultaneously over time, limitations exist since no communication and face-to-face interaction was possible. On the one hand, this standardization allowed us to conduct the simulation in a lab scenario without any influences of participants' communication, eye contact, gestures, mimicry, or attractiveness and persuasion. On the other hand, real negotiations regularly make use of social interactions (e.g., discussions) before final decisions are made.

In general, undergraduate students' lack of experience with business simulations and management decisions in Study 1 limits the generalizability of the results, especially since the majority of participants were students majoring in psychology. Furthermore, in Study 1 and Study 2, the requirement that participants perform the experiment in one session meant that they had to read and consider a rather large load of information. Although we deleted and simplified as much as possible, having to consider all the task procedures, goals, and information about the associations may have led participants to process the data less systematically and more heuristically instead.

Future Research

Future research should investigate influences on individuals' behavior in resource dilemmas over time. For example, the assessment of communication among individuals seems necessary, since discussions potentially influence subsequent behavior (see Epley et al., 2006,

Study 1). Furthermore, subtle forms, such as eye gaze, gesture, and mimicry, as well as communication-associated aspects, such as physical attractiveness (e.g., Rosenblat, 2008; Solnick & Schweitzer, 1999) and persuasion (e.g., Davies, Goetz, & Shakelford, 2008), as well as minority influence (e.g., Velden, Beersma, & De Dreu, 2007) are likely to influence negotiating.

Besides no discussion during the negotiation being allowed, there was no opportunity to directly influence others' (intended) behavior. Without the opportunity to socially interact, individuals could not give support in order to develop an ideal strategy at group level. Future research might investigate the processes that influence groups' behavior, either cognitively (e.g., information processing; De Dreu, 2007; De Dreu & Carnevale, 2003; De Dreu, Koole, & Steinel, 2000), affectively (e.g., emotion; Kopelman, Rosette, & Thompson, 2006; Van Kleef & Côté, 2007; Van Kleef, De Dreu, & Manstead, 2004; or trust; Naquin & Paulson, 2003; see also Balliet & Van Lange, 2013a, 2013b), or behaviorally (e.g., backing up behavior; Porter, Gogus, & Yu, 2010).

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CHAPTER 4

WHEN A PURELY EGOTISTICAL INDIVIDUAL DOES NOT TAKE THE MOST: REACTIVE EGOISM IN DISPOSITION AND SITUATION OVER TIME

General Discussion

This chapter discusses the research presented in the previous chapters and includes an overview of the core findings. Next, a critical contemplation of *perspective taking*, *social orientation*, and their integration in the *triangle hypothesis* will be described as well as their limitations. At the end of this chapter, I describe the contributions of this dissertation to basic psychological knowledge and possible future research.

Perspective taking as the ability of a “respondent to adopt the perspective, or point of view [of others]” (Davis, 1980, p. 6) helps to understand other people. At the first sight, to adopt other people’s perspective might seem to be a complaisant, empathetic behavior; as it

decreases egotistical self-centrism through consideration of others (Epley, Caruso, & Bazerman, 2006). However, considering other people's perspective does not necessarily cause empathetic behavior but might lead to a biased prediction of others. Research has shown that individuals who take others' perspective may predict others to be self-interested, particularly in (predicted) competitive negotiations. As a consequence, individuals increase their egoistical behavior reactively; an effect called *reactive egoism* (Epley et al., 2006). To demonstrate reactive egoism and to identify its dispositional and situational antecedents and its consequences over time with focus on individuals' negotiation experience was the major aim of this dissertation.

Overview of the Core Findings

This dissertation investigates the origins and consequences of individuals' behavior in social dilemmas caused by reactive egoism. The studies presented in the two chapters in the dissertation all shared a general 2 (dispositional perspective taking: perspective takers vs. non-perspective takers; situational perspective taking: other-focused vs. self-focused) x 2 (dispositional social orientation: prosocial vs. proself; situational social orientation: cooperative vs. competitive) design; except for Study 2 in Chapter 3, which included perspective taking as the only factor.

In this dissertation, I examined reactive egoism evoked by perspective taking and social orientation in resource dilemmas. First, consideration of perspective taking and social orientation as dispositional characteristics in Study 1 and as situational characteristics in Study 2 in Chapter 2 deepens the understanding reactive egoism's psychological bases. Previous research (Epley et al., 2006) was not able to separate influences of personality and situation on individuals' behavior, and further neglected potential interaction effects. Second, elaboration of an ongoing negotiation using finitely repeated resource allocations in Study 1

and Study 2 in Chapter 3 allows the analysis of reactive egoism in simultaneous and interactively simulated negotiations for the first time. Third, participation of undergraduate students and individuals in a leadership position provides evidence that individuals' behavior differs depending on experience with negotiation processes and expertise. Since I created dynamic resource allocations, individuals' reaction to initial behavior could be analyzed over time.

Study 1 in Chapter 2 ($N = 183$; undergraduate students) showed how individuals' disposition influenced their behavior. Findings indicated that perspective takers and prosocial individuals cooperated more by appointing themselves a smaller amount of the resource than non-perspective takers and proself individuals did. Although the two dispositions perspective taking and social orientation differ in their psychological mechanisms and meanings, they are correlated in their ability to consider other individuals.

Study 2 in Chapter 2 ($N = 133$; members of the general staff of the Swiss Armed Forces) confirmed that the two dispositional factors perspective taking and social orientation are correlated. Moreover, dispositional social orientation showed that prosocial individuals again cooperated more by taking a smaller amount of the resource than proself individuals did, irrespective of manipulated situational characteristics of the negotiation. Dispositional perspective taking no longer had any influence on individuals' behavior. In this study, the negotiation was framed in a way that both perspective taking and social orientation were manipulated as situational characteristics of the negotiation. Situational perspective taking showed that individuals in the self-focused condition behaved consistently between predictions and behavior. In contrast, for individuals in the other-focused condition no consistency between predictions and behavior was found. These individuals reactively increased their egotistical behavior due to the predicted competitive behavior of others; i.e., reactive egoism occurred. Furthermore, the reactively increased egotistical behavior of other-

focused individuals in cooperative negotiations might be caused by the uncertainty about whether others will cooperate.

As an additional finding, the comparison of both studies in Chapter 2 revealed leaders in Study 2 to behave more competitive and to take a larger amount of the resource than undergraduate students in Study 1 did. These undergraduate students were only assigned to the high social power position by their role. Therefore, evidence for a discontinuity effect (Pinter et al., 2007), the effect that individuals high in social power behave more competitively in negotiations than individuals low in social power do, was observed.

Study 1 and Study 2 in Chapter 3 investigated the influence of manipulated situational characteristics of perspective taking and social orientation on individuals' behavior over time. Therefore, a finitely repeated dynamic resource allocation scenario was modeled and interactively simulated over multiple trials.

Study 1 in Chapter 3 ($N = 112$; undergraduate students) demonstrated that perspective taking led other-focused individuals to predict others as self-interested and to reactively increase their egotistical behavior by allocating themselves a larger amount of the resource than self-focused individuals did; i.e., reactive egoism occurred. Interestingly, other-focused individuals showed ongoing reactive egoism and generated smaller amounts of the resource over time than self-focused individuals. Furthermore, this study showed that the framing of the negotiation as either cooperative or competitive had no influence on individuals' behavior. As cooperation was beneficial in cooperative as well as in competitive negotiations by individuals' goal to maximize their own outcomes over time, no difference in the amount of the resource taken was expected. Over time, however, long-term consequences of reactive egoism were shown in the other-focused condition in competitive negotiations without quota restrictions. These individuals ended with the least amount of the resource taken due to their failure to detach from reactively increased egotism that caused the depletion of the resource

more often. With quota restrictions, the effect the negotiation's framing of cooperation and competition was absent.

Study 2 in Chapter 3 ($N = 60$; business leaders from various organizations in Central Europe) confirmed the finding that individuals in the other-focused condition reactively increased their egotistical behavior by taking a larger amount of the resource than individuals in the self-focused condition did; i.e., reactive egoism occurred. However, reactive egoism vanished over time and individuals in the other-focused condition did not differ in the amount of the resource taken from individuals in the self-focused condition. Interestingly, a few individuals in the other-focused condition assumed that others would be cooperative, even though the negotiation was framed to be competitive. These individuals avoided the occurrence of reactive egoism but showed mutual cooperation, and, consequently, ended up with a larger amount of the resource taken over time than individuals in groups showing reactive egoism. This additional finding provides evidence that cooperation is possible even if the negotiation is framed to be competitive. However, further research is needed to identify whether the smaller group size in the negotiation, the participating business leaders' expertise and experience with negotiation processes, or even other influences that were not taken into account in this research moderated this effect.

Discussion and Limitations

In this section I critically discuss the main psychological constructs in the dissertation's theoretical background, *perspective taking* and *social orientation*, and their integration in the *triangle hypothesis*.

Perspective Taking

Dispositional perspective taking. In this dissertation, perspective taking is the major psychological construct of interest. In general, to measure dispositional perspective taking was my greatest difficulty due to the lack of an appropriate measure. Dispositional perspective taking indeed influenced individuals' behavior only in the first study in which disposition was measured. In the following studies, when situational perspective taking was manipulated and dispositional perspective taking was assessed as a control variable, disposition no longer exerted any influence on individuals' behavior in negotiations. Several explanations and possible improvements are listed in the following section.

First, in Davis's (1980) Interpersonal Reactivity Index (IRI), empathy is considered not only to be affective and cognitive but also to have an affective, health associated component (subscale *personal distress*) as well as a perceptual, media related component (subscale *fantasy*). Therefore, it remains unclear what empathy really is. There is good reason to assume that empathy is just affective and cognitive (or only affective as in early research on empathy). At the same time, there is also evidence to include more components for empathy, such as the two additional components by Davis (1980). According to Baron-Cohen and Wheelwright (2004), however, it should be obvious that these two components "are not empathy itself" (p. 166). This lack of understanding about the empathy construct might be overcome by a deductive method of scale construction once a final definition of empathy has been reached.

Second, the IRI itself does not clearly separate its different components. The subscale *perspective-taking* ought to measure cognitive components of empathy, and the subscale *emotional concern* is supposed to measure affective components. However, in the subscale *emotional concern*, (affective) perspective taking is measured as well. Therefore, it is essential to clarify the definition and meaning of perspective taking and to elaborate a

theoretical differentiation of perspective taking and emotional concern. Conceivably, there may be a cognitive perspective taking subscale as well as an affective perspective taking subscale that apply to the proposed taxonomies, chronologically listed, by Underwood and Moore (1982), Eisenberg (1986), and Oswald (1996).

Third, even if the ambiguity of affect and cognition can be resolved, it still remains unclear whether an empathetic person attains higher values on both affective and cognitive (or all four) subscales, or whether a high value on one subscale is sufficient to be an empathetic person, and in which subscale most importantly. There is a theoretical lack of explanation of what an empathetic person's abilities have to consist of. This issue is not only crucial in research by Batson and Cialdini but also in the growing amount of research on empathy associated constructs such as, for example, accuracy by Hall and Schmid Mast (e.g., Hall, Andrzejewski, Murphy, Schmid Mast, & Feinstein, 2008; Hall & Schmid Mast, 2007) and its consequences on interpersonal sensitivity (e.g., Hall & Schmid Mast, 2008; Schmid Mast, Jonas, & Hall, 2009).

Fourth, besides the previously described theoretical issues, several methodological difficulties exist. Primarily, responses to the items on the IRI might be conflicting and bewildering. As can be seen in Table 1.1 and Table 1.2 in Chapter 1, not only are items often formulated imprecisely (e.g., "I try to..." in five of seven items in Table 1.1, or "I feel kind of..." and "I don't feel very much..." in Table 1.2), but it also remains unclear if "trying" or "feeling kind of" is sufficient for the statements' approval. However, even when respondents decide on this issue, the contradictory logic of the response format makes it difficult to respond adequately. For example, six items in total (two items in Table 1.1, four items in Table 1.2) use "sometimes" (or "often", "not usually") to assess the frequency of the cognitive or affective process. Instead of a response scale for indicating a degree of agreement on vaguely temporal parameters, a pure frequency measure (e.g., from *never* to *always*) might

not only make the scale easier to respond to but also improve the internal consistency of the scale itself (for statistics, see Davis, 1980). Furthermore, social desirability might strongly influence responses to the statements, since the items measure socially desired characteristics in general social interactions.

This criticism might raise the question as to whether there are alternative measures of perspective taking. So far, an established measure of dispositional perspective taking does not exist. For measuring empathy more accurately, Baron-Cohen and Wheelwright (2004) developed the Empathy Quotient (EQ). Like Davis (1980, 1983), Baron-Cohen and Wheelwright also considered empathy to be a multidimensional construct. However, their EQ considers empathy as a global construct in order to provide a reliable and easily assessable measure of empathy. Lawrence, Shaw, Baker, Baron-Cohen, and David (2004) found significant correlations of the EQ (Baron-Cohen & Wheelwright, 2004) with the IRI's (Davis, 1980) two subscales *emotional concern* (affective component; $r = .42, p = .025$) and *perspective-taking* (cognitive component; $r = .49, p = .009$). However, no correlations were found for the other two IRI subscales *personal distress* and *fantasy*. This finding follows the argument by Lawrence et al. (2004) that *emotional concern* and *perspective-taking* measure empathy more closely than the other two subscales. These other two subscales, according to Baron-Cohen and Wheelwright, do not measure empathy itself but rather consequences of empathetic behavior. The small number of participants ($n = 28$) in the study by Lawrence et al. (2004), however, makes generalizations about the scales' intercorrelation difficult.

Situational perspective taking. As a consequence of these major methodological issues, I manipulated perspective taking as situational characteristic of the negotiation to investigate individuals' behavior in negotiations; with Study 1 in Chapter 2 being an exception. The manipulation of situational perspective taking was in accordance with Epley et al.'s (2006) procedure: Self-focused individuals were asked to indicate their decision directly

(i.e., behavior), and other-focused individuals were instructed to consider others' perspective first (i.e., predictions) before deciding (i.e., behavior).

However, slight modifications to Epley et al.'s (for comparison, 2006, p. 875) instructions were needed. First, I paraphrased and shortened the instructions, since in Epley et al.'s (2006) experiments, information was provided in advance and then recalled at the experiment, whereas in my experiments, participants had to learn all the information at the experiment, and, therefore, their cognitive capacity was critical. Further, I changed the predicted target by considering "other individuals" instead of "other groups," since in my studies, individuals all acted as representatives of associations without knowing who was acting in the same simulation (Study 1 and Study 2 in Chapter 2) or who was acting as the respective representative of the respective other associations (Study 1 and Study 2 in Chapter 3). In the studies by Epley et al. (2006), participants either had a group discussion or were informed that they were physically interacting with other group members. Further, in contrast to Epley et al.'s (2006) procedure, by instructing participants to take others' perspective, I framed different "intentions and interests" rather than appointed "priorities." Priorities may have confused participants, as priorities were all instructed the same within groups, whereas the intentions and interests could differ for each association (i.e., asymmetric dilemmas in Study 1 and Study 2 in Chapter 3).

Social Orientation

Dispositional social orientation. In contrast to perspective taking, social (value) orientation as a disposition predicts a person's behavior in resource allocations much more precisely. With the Triple-Dominance Measure of Social Values (Van Lange, Otten, De Bruin, & Joireman, 1997), a well-established measure of dispositional social orientation exists. It measures an individual's social preference for outcome distribution through nine

forced-choice items, displayed in matrices in which points must be allocated between oneself and another fictitious person. I used the two-category schema of social orientation (disposition: prosocial vs. proself) as a fit for my negotiation manipulation (situation: cooperative vs. competitive). However, other taxonomies of dispositional social orientation have been defined in the last decades (for an overview, see Van Lange, 1999), and new measures were developed very recently (e.g., “slider measure”; Murphy & Ackermann, 2013). Whereas some types of dispositional social orientation are more theoretical in nature (e.g., the nihilistic orientation), the altruistic orientation and the aggressive orientation require further discussion, as they have not been considered in the studies in this dissertation.⁹

First, *altruism* represents an individual’s preference for maximizing the other person’s outcomes. A scientific debate between Batson and Cialdini on the nature of altruism continued for decades. Batson argues that altruism, evoked by empathy (“empathy-altruism hypothesis”; for an overview, see Batson & Powell, 2003) is inherent in human mankind and serves evolutionary functions. Cialdini, however, argues that altruism always possesses an egotistical component, at least to some extent. According to the “negative-state relief explanation” (Cialdini et al., 1987), individuals benefit from empathetically reacting to a negative state when seeing another person’s suffering. The debate will not be evaluated or judged here. Nevertheless, possible consequences must be considered.

According to Batson’s argumentation, altruism is inherent for human mankind’s survival. This argument is unlikely to be relevant for the present research. In the social dilemmas, participants simply acted as representatives of a commercial industry. Thus, the participants could expect no real-life consequences. Furthermore, to be altruistic, the

⁹ The Triple-Dominance Measure of Social Values (Van Lange et al., 1997) would have categorized an altruistic individual as prosocial and an aggressive individual as competitive or as proself, respectively.

individual should know the other's interests or needs first. As I used social dilemmas, collective interests are in conflict with one's own interests. Since Batson considers altruism as acting toward others' interests solely, this behavior, however, could apparently not be displayed due to the social dilemma's structure itself.

Cialdini's argument that altruism always includes an egotistical component might be relevant for the social dilemma, at least in its asymmetrical version. In asymmetrical dilemmas, interests differ for each participant. As a consequence, one representative gains by taking a large amount of the resource, whereas another representative benefits by taking a lesser amount of the resource. However, this opportunism does not reflect altruism. Altruism differs from cooperation in that altruistic individuals do not expect any outcomes for themselves, but in cooperation reciprocity is expected. Consequently, maximizing another's outcome in social dilemmas does not necessarily reflect altruism but it is more likely to reflect an expected cooperation.

Second, *aggression* is a social orientation in which an individual's preference is to minimize another's outcomes with no regard to own outcomes. There might be situations in which an individual's preference is for the other person to receive nothing. This might be the case, for example, after a break-up in a romantic relationship or in legal affairs. However, economic social interactions as conducted in the social dilemmas differ from these examples in two ways. For one, the former two examples are evoked by emotional causes (e.g., anger, frustration, or sadness), but in my studies, the social dilemmas are based on cognitive components. For another, the goal to minimize another's outcome often forces the individual to spend resources (e.g., money or time) to reach the goal of minimizing another's outcome. However, in the dissertation's studies, the structure of social dilemmas did not allow diminishing another's outcomes.

Since my interest in social orientation concerns its influence in negotiations, participants' own interests in outcomes of the resource allocation are essential. The individual gain in altruism and aggression, in contrast, strongly depends on (no) resource allocation to the other person.

Situational social orientation. Alternatively, I manipulated social orientation (Study 2 in Chapter 2 and Study 1 in Chapter 3) to investigate situational factors of social orientation on individuals' behavior in negotiations. Again, I manipulated social orientation according to the procedure by Epley et al. (2006). Whereas in cooperative negotiations individuals were instructed to attain the highest joint outcome, in competitive negotiations each individual was instructed to reach the highest outcome for himself. Here again, I paraphrased and shortened the instruction in contrast to Epley et al. (2006). Further, I modified the instruction for cooperative negotiations. I used "joint outcome" instead of "team score," since in my experiments no team was formed and resources were generated as outcomes instead of scores. Again, the procedure of manipulating situational characteristics of the negotiation according to the cooperative or competitive orientation was mainly successful. Nevertheless, dispositional social orientation still influenced individuals' behavior. Thus, a congruence of disposition (i.e., trait) and situation (i.e., state) seems to be present for social orientation – whereas this congruence is absent for perspective taking.

"Triangle" Hypothesis

Reconsidering social orientation, its classification may be assigned to a two-category schema (i.e., *prosocial* and *proself*) or a three-category schema (i.e., *cooperative*, *individualistic*, and *competitive*). According to the "triangle" hypothesis by Kelley and Stahelski (1970), cooperators assume that others are either cooperative or competitive, but competitors predict that others are competitive only. So, what about individualistic individuals

and their prediction about others? Kuhlman and Wimberley (1976) examined this empirical lack concerning the individualistic orientation and others' predicted social orientation. Their study indicates that cooperators are the least motivated to compete, and that competitors have the least motivation to cooperate. Individualism intermediated ratings in both measures, indicating a different pattern in the three-category schema. However, the aggregation of individualistic and competitive individuals to a prosocial category is theoretically defensible, since "prosocials expect others to be more cooperative than do individualists and competitors" (i.e., *personality*; Van Lange et al., 1997, p. 734).

Furthermore, other reasons exist about as to why this issue did not affect the findings of the studies in this dissertation. First, I manipulated situational characteristics of the negotiation to be either cooperative or competitive. Individuals' behavior might be formed by the framing of "the motivational structure of these particular games" (i.e., *situation*; Kuhlman & Wimberley, 1976, p. 81). This procedure allowed me to compare situational social orientation (*cooperative* vs. *competitive*) with dispositional social orientation (*prosocial* vs. *proself*). As a consequence, the framing in the social dilemma was consistently either cooperative or competitive (except for Study 2 in Chapter 3, which included competitive negotiations as the only negotiation condition). Second, individuals' behavior might be formed by others' predicted cooperative or competitive behavior (i.e., *others' predicted personality*; Kelley & Stahelski, 1970). Therefore, the two-category schema allowed me to compare others' predicted social orientation (from *cooperative* to *competitive*) with dispositional social orientation (*prosocial* vs. *proself*). For that reason, I constantly used dispositional social orientation in the two-category schema; its three-category schema was used only to report the sample in more detail and to discuss differences in the sample.

Contributions and Future Research

This dissertation investigated influences of perspective taking and social orientation, dispositional as well as situational, on individuals' behavior over time. I succeeded in demonstrating that individuals' motivation to take others' perspective as well as individuals' social preferences for outcome distribution influenced their subsequent behavior in social dilemmas. Moreover, when measuring perspective taking and social orientation as dispositions, the two constructs are correlated. Participants displayed the same behavior when being prosocial or other-focused as well as when being prosocial or self-focused. Further, I succeeded in demonstrating that situational factors influenced individuals' behavior and that personality interacted with situational factors.

By using the software z-Tree (Fischbacher, 2007), which has rarely been used in psychological research up to now, to provide interactive, simultaneous assessment of various individuals' behavior within the negotiation on resource allocation, a dynamic and more realistic scenario was investigated. Further, due to the negotiation's manipulation of situational characteristics over time, I succeeded in demonstrating that reactive egoism also occurs in long-term negotiations. Furthermore, due to participating undergraduate students as well as leaders in the economy and military, I succeeded in demonstrating that individuals' behavior over time depended on their experience with negotiation processes and expertise.

Future research might make use of this approach to investigate individuals' behavior in social dilemmas in more detail. Apart from the constructs investigated in this research, perspective taking and social orientation, other predictors and moderators are likely to influence individuals' behavior. Since my aim was to contribute new insights for the proposed psychological constructs, I had to standardize other possible influences. In this dissertation, an extensive, rather theoretical knowledge concerning the effect of reactive egoism was developed. At the same time, various standardizations limit the generalization of the findings

in this dissertation's studies. Therefore, providing practical implications is critical.

Nevertheless, possible extensions for future research will be proposed in the following section.

First, communication among negotiators was not allowed during interactions for standardization. Since discussions might influence subsequent behavior (see Epley et al., 2006, Study 1), there is good reason to assume that communication among individuals will not only change their own behavior but others' behavior as well. Thus, exploring the influence of communication (for an introduction, see Bales, Strodtbeck, Mills, & Roseborough, 1951) and its subtle forms (e.g., mimicry; Maddux, Mullen, & Galinsky, 2008), as well as communication-associated aspects, such as physical attractiveness (e.g., Rosenblat, 2008; Solnick & Schweitzer, 1999) and persuasion (e.g., Davies, Goetz, & Shakelford, 2008), as well as minority influence (e.g., Velden, Beersma, & De Dreu, 2007) on individuals' behavior might be important for future research.

For example, in the present studies' social dilemma, discussion would have allowed individuals to share information, evaluate and discuss strategies, and convince others to act in their proposed direction – independent of whether this strategy was self-interested or not. To investigate effects of information sharing might aid investigation and understanding of individuals' behavior in more detail. On the one side, there is good reason to assume that discussion helps recognizing that there is eventually a drastic decrease in the resource and consequently helps identifying a common strategy to prevent depletion of the resource. On the other side, there is evidence that discussion even increases egotistical behavior (i.e., strengthens reactive egoism) due to individuals focusing on others' behavior instead of focusing on the social dilemma, as demonstrated in Study 1 by Epley et al. (2006).

Second, besides no discussion during interactions being allowed, there was no opportunity to directly influence others' (intended) behavior. Without the opportunity to

communicate, participants could not give any advice in order to develop an ideal strategy. Thus, future research might investigate the processes that influence the formation of a group's strategy and behavior, either cognitively (e.g., information processing; De Dreu, 2007; De Dreu & Carnevale, 2003; De Dreu, Koole, & Steinel, 2000), affectively (emotion; e.g., Kopelman, Rosette, & Thompson, 2006; Van Kleef & Côté, 2007; Van Kleef, De Dreu, & Manstead, 2004; or trust; e.g., Naquin & Paulson, 2003; see also Balliet & Van Lange, 2013a, 2013b), or behaviorally (e.g., backing up behavior; Porter, Gogus, & Yu, 2010). For example, the opportunity to provide task-related effort, called "backing up behavior" (Porter et al., 2003), may help individuals struggling with their role, the setting of the task, or the choice of an adequate strategy to attain instructed goals. Backing up behavior includes verbal activities but also cognitive and behavioral activities (Marks, Mathieu, & Zaccaro, 2001) and could then be analyzed in terms of individuals (i.e., *personality*) but also in terms of "the nature of the team's task situation" (i.e., *situation*; Porter et al., 2003, p. 392) that consequently could improve joint outcomes (Porter, Gogus, & Yu, 2011).

In the social dilemma of the present studies, for example, backing up behavior might avoid some individuals' failure to adequately react to a decrease of the resource – likely caused by reactive egoism. A change in strategy through backing up behavior would allow the resource to increase over time and consequently would lead to higher joint outcomes (and higher individual outcomes) in social dilemmas. Therefore, backing up behavior might help to overcome the phenomenon called entrapment, a "decision making [pattern] that does not change, despite an escalation of loss" (Fietkau & Trénel, 1999, in "Summary").

Third, the simulation of the resource allocation required participants to negotiate for the entire duration and with full transparency of their behavior. In other negotiation research, for example, participants had the opportunity to benefit or punish others (e.g., Batson et al., 1995), to behave aggressively or unethically (e.g., Pierce, Kilduff, Galinsky, & Sivanathan,

2013), or they could even quit the negotiation in unsolvable impasses or finish when agreement was reached (e.g., Trötschel, Hüffmeier, Loschelder, Schwartz, & Gollwitzer, 2011). Future research might consider possible influences of possible break ups, potential exploitation of others, or hindrances during negotiations.

In the present studies' social dilemma, for example, participants were not allowed to quit the negotiation, neither if they attained their individual goal nor if they recognized the impossibility of attaining it. Participants' wish to quit the negotiation or to replace others who did not follow the common or self-interested strategy was likely present in the studies. The option to leave or to dismiss the negotiation, to replace others, or to even allow individuals to decide on the composition of representatives in the negotiation might furthermore improve the negotiation scenario to make it even more realistic and might be an interesting field for future research.

Fourth, in addition to investigating intragroup processes, as described so far, intergroup negotiations might also be simulated (e.g., Aaldering & De Dreu, 2012; Aaldering, Greer, Van Kleef, & De Dreu, 2013, Steinel, De Dreu, Ouwehand, & Ramírez-Marín, 2009). Composing groups quasi-experimentally to observe not only intragroup behavior but also intergroup behavior (for participants' social orientation, see Steinel et al., 2009) might be a promising field for future research. This research would not only provide new insights into intergroup research but also elevate the lately somewhat ignored research on the triangle hypothesis (Kelley & Stahelsky, 1970; see also Idiema & Poppe, 1994, 1995, 1999) and on social uncertainty (Wit & Wilke, 1998) when examining at the (inter)group level (see also Messick, Allison, & Samuelson, 1988).

In a social dilemma with intergroup negotiation, for example, the intragroup constellation of group members and their dispositional social orientation might influence not only subsequent group behavior but also groups' belief of outgroup members' dispositional

social orientation and likely behavior. This would allow investigation of reactive egoism and social uncertainty at the intergroup level and may increase the reality of negotiations.

Finally, in future research the negotiation task might also be modified. I used resource dilemmas which allowed participants to make use of a shared resource, but modifications of this type of social dilemma, or even other types of social dilemmas, would have been possible. I succeeded in modifying group size (three vs. four), task structure (symmetric vs. asymmetric), and assessment (single vs. multi; separately vs. simultaneously; one trial vs. multiple trials) in this dissertation's studies, future research, however, might use other types of social dilemmas (e.g., public goods dilemmas, prisoner's game dilemmas, or ultimatum games).

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